Intaglio™

Complex drawing made simple.

User Guide

October 2015

© 2006-2015, Purgatory Design. All Rights Reserved.

www.PurgatoryDesign.com/Intaglio

Contents

Welcome To Intaglio 1

About this guide....1
Onscreen help....1

Intaglio Overview 2

About Intaglio....2
System requirements....2
The document window....3
Annunciators....4
The inspector panels....4
Workspaces....6
The tool palette....8
The toolbar....8
Fill....9
Stroke....9
Transformation....9
Miscellaneous....9
Drag and drop....9
Paint wells....12
Interactive Geometry Display....12
Font panel....13

Document Setup 15

Templates....15
Autosave....15
Drawing size....16

Color space 16
Export & effects resolution 17
Drawing scale & units 17
Dimension text 18
Grid 19
Guides 20
Layers 21
Drawing With Intaglio 22
Selecting graphics 22
Paint 23
Graphic objects 23
Paths 23
Text 24
Images 24
Drawing paths 25
Point selection tool 25
Scissors tool 26
Line tool 26
Dimension line tool 26
Rectangle & oval tools 26
Arc tool 26
Bézier Curve Polygon tool 27
Polygon tool 27
Star tool 27
Round rectangle tool 28
Freehand tool 29

Path tool 29
Arrows 32
Filling paths 33
Stroking paths 34
Path operations 35
Unite 36
Intersect 36
Exclude 36
Subtract 36
Drawing text 36
Text flow 37
Font features 37
Kerning 38
Leading 38
Baseline 39
Line direction 39
Text as a graphic element 39
Binding text to a path 40
Vertical text 41
Groups and Masks 41
Gradients 43
Patterns 45
Textures 47
Image Textures 47
Light Textures 47
Paint Textures 47
Styles 48

Using Effects 49

CoreImage effects....51

Creating Slideshows 56

Scale To Fit Display....57

Use Secondary Display....57

Hide Master Slides Above....57

Advance....57

Loop....57

Click Closes Last Slide....57

Omit Invisible Layers....58

Transition....58

Exchanging Graphics With Other Applications 59

PDF (Portable Document Format)....60

SVG (Scalable Vector Graphics)....60

iWork....60

Converting QuickDraw Graphics to Quartz....61

Scripting Intaglio 65

Tips and tricks....65

Welcome To Intaglio

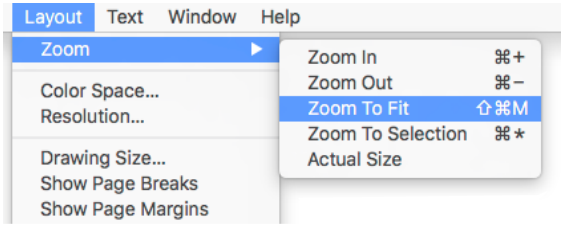
About this guide

This guide describes the features of Intaglio and explains how to use them.

Note: this guide frequently refers to menu commands. These commands are specified like this:

Choose **Layout > Zoom > Zoom To Fit**

The example above starts with the *Layout* menu in the menu bar, selects the *Zoom* submenu, and finally chooses the *Zoom To Fit* menu item as shown below.



A similar method is used to specify the location of a file or folder on the computer's hard disk. For example:

Home > Library > Application Support > Intaglio

specifies the *Intaglio* folder within the *Application Support* folder within the *Library* folder within the current user's home directory. Please note, on recent versions of Mac OS X, the Library folder is hidden but is easily accessed in the Finder by holding down the *option* key and choosing the Finder menu **Go > Library**.

Onscreen help

To use Intaglio's onscreen help choose **Help > Intaglio Help**. The onscreen help system describes the function of each menu item and window, and contains instructions for basic drawing functions. You can browse the help system from the main page or search for specific terms. The help files are also available online at:

www.PurgatoryDesign.com/Intaglio/Help/Intaglio Help.html.

Intaglio Overview

About Intaglio

Intaglio is a graphics application designed specifically for Mac OS X. Because of this narrow focus, Intaglio is able to make the most of the powerful graphics technologies Apple is creating for the Macintosh such as Quartz and CoreImage.

Software for 2D graphics work can be divided into two categories. The first category is software to create and edit bitmap images such as digital photographs. The second category is software to create and edit vector images such as text and abstract shapes. Software in one of these categories is frequently called either a paint or a draw application respectively. Each type of graphics application is useful for different kinds of tasks.

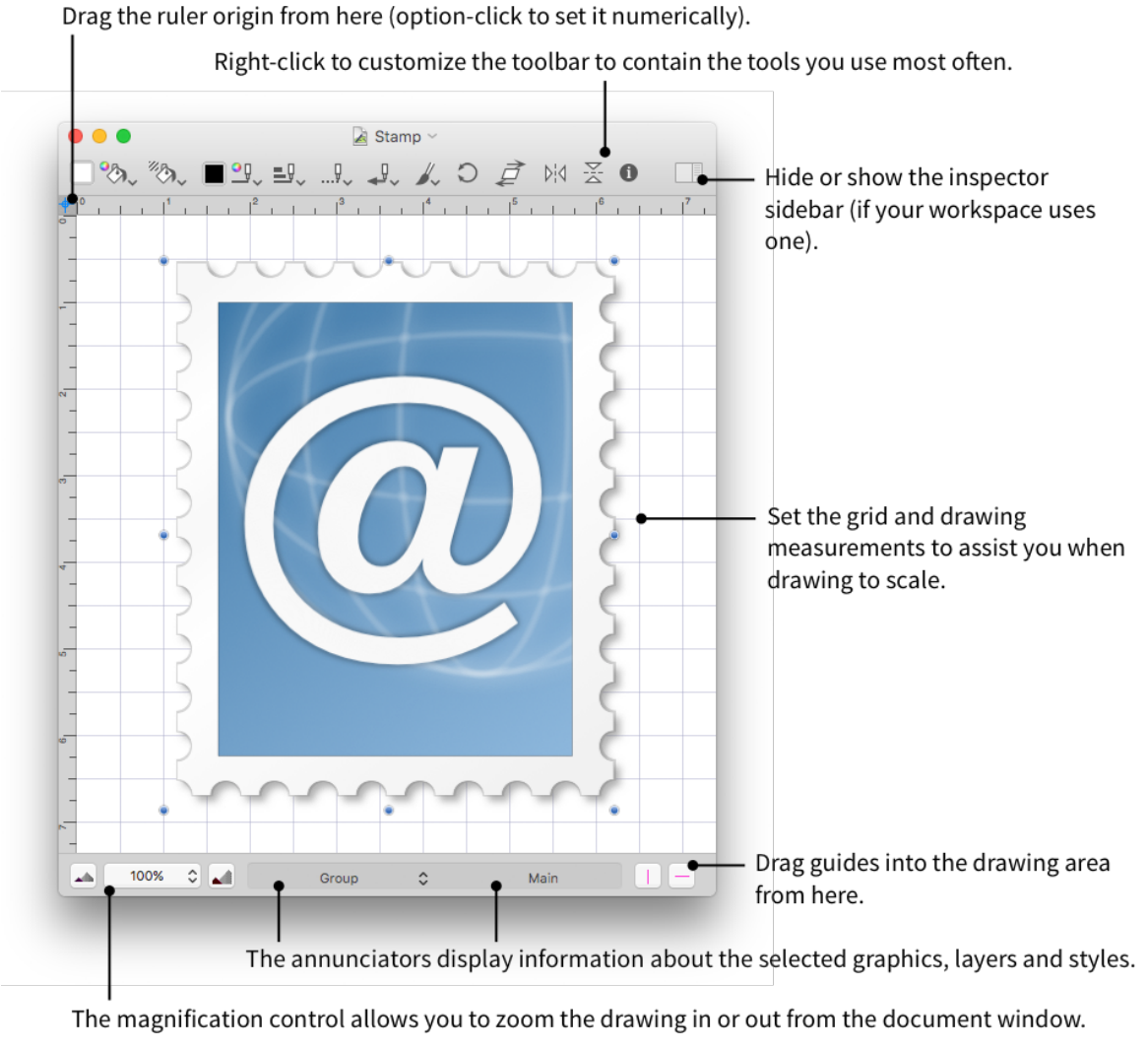
By the definition above, Intaglio is a drawing application. It manipulates graphic elements as individual objects (i.e., vectors). For example, text created in Intaglio is saved as characters in a particular font and can be edited easily, whereas text saved in a paint program is generally just pixels in a bitmap so it is hard to edit. Graphic objects such as lines and rectangles are all examples of a basic drawing element called a *path*. Paths are arbitrary shapes whose interiors can be filled and whose outlines can be stroked. Intaglio also works with bitmap images, such as digital photos, as objects. These images can be manipulated in a manner similar to any other graphics object but the individual pixels in the image can't be edited.

Intaglio bridges the gap between bitmap and vector graphics with a set of powerful special effect filters. This allows bitmap style operations to be performed on vector graphics while maintaining the ability to edit the graphics in vector form and modify the settings used to create the effects.

System requirements

Intaglio requires Mac OS X 10.8 or later for the current version, although older versions are still available which are compatible all the way back to Mac OS X 10.3.9. See the download page of our website for these versions.

The document window

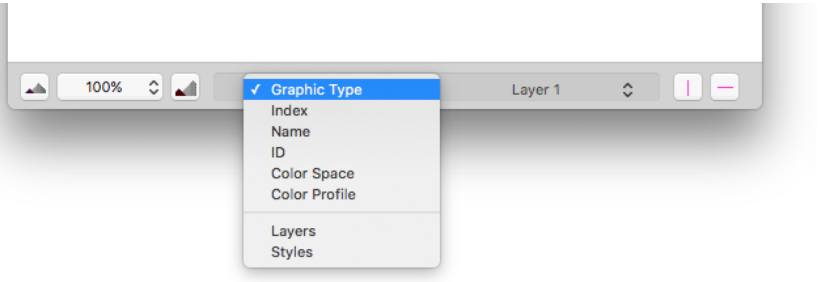

Drag the ruler origin from here (option-click to set it numerically).
Right-click to customize the toolbar to contain the tools you use most often.
Stamp
Hide or show the inspector sidebar (if your workspace uses one).
Set the grid and drawing measurements to assist you when drawing to scale.
100%
Group
Main
Drag guides into the drawing area from here.
The annunciators display information about the selected graphics, layers and styles.
The magnification control allows you to zoom the drawing in or out from the document window.

The document window is where drawing takes place. You can also drag a graphic directly into the window to add it to the drawing (see page 9).

The drawing area in the document window shows the printable area of the page plus the blank margin that most printers will add around the edges of the page. To hide the page margin display choose **Layout > Hide Page Margins**. To see what the page will look like when printed choose **File > Print** and view the preview directly, or use the *PDF* menu in the print window to open the document in the *Preview* application.

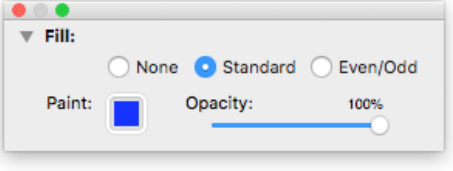
Annunciators

At the bottom of each document window is a set of three *annunciators*, which display information about the current document and selection state. If you don't see all three, the window is too narrow to fit them all in, and you can reveal them all by increasing the width of the window. Each annunciator can display information about document layers, styles or the currently selected graphics. To customize the information displayed, click on the annunciator and select the type of information to be displayed from the resulting popup menu. For layers and styles, this popup menu also serves as a shortcut to control those elements with a submenu for layers or styles respectively.

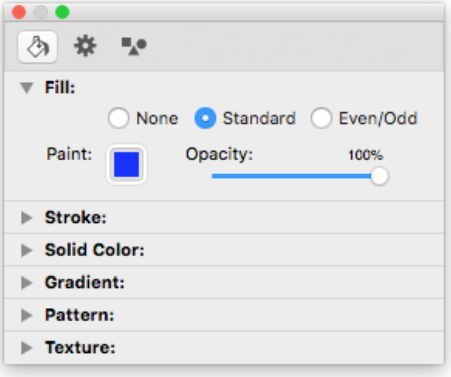


The inspector panels

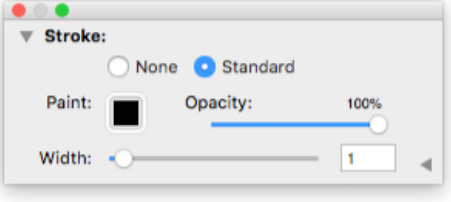
You can open the inspector panels from the **Window > Inspectors** menu and in some cases other menus as well. Each panel contains controls for a related group of functions. For example the *Fill* inspector controls the fill mode and the paint (e.g., color) used to fill path and text graphic objects. To open the fill inspector choose **Window > Inspectors > Fill**. Inspector panels can be presented in floating windows (as shown here), or docked in sidebars on either side of each document window. The inspector layout can be customized in a number of different workspaces (see page 6).



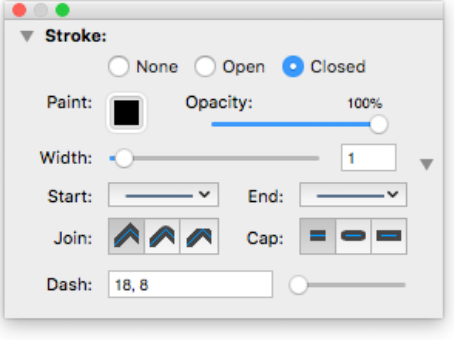
Inspector panels can be combined into panes with multiple panels and even multiple tabs (as shown here by the three buttons at the top of the pane). You can reduce the size of an inspector by clicking the mouse in the disclosure triangle in its top left corner next to the inspector's title.



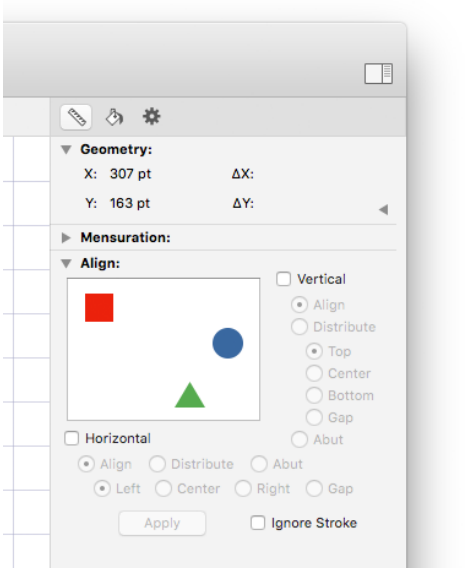
Some inspectors have a disclosure triangle in the lower right corner to reveal extra controls that are generally used less often than the others. For example, the stroke inspector normally hides the controls for things like arrows and dash settings. To reveal these extra controls just click the mouse in the triangle at the bottom of the panel.



Click the triangle in the lower right corner to reveal extra controls.



The inspector panels above are all shown in floating windows, but you can also dock inspectors on either the left or right side of each document window. As always, these docked panes can combine several inspector panels and have multiple tabs. You can have any combination of docked and floating inspectors and customize tabs however you wish. For more information, see *Workspaces* below.



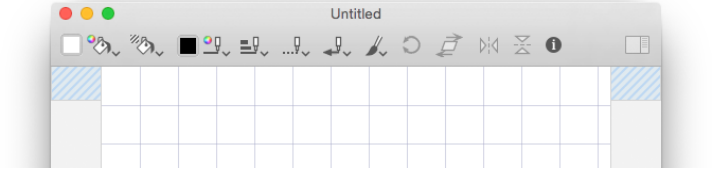
Workspaces

Workspaces are collections of user interface settings and customizations you can switch between as needed. Intaglio includes several default options, and you can customize these or create your own.

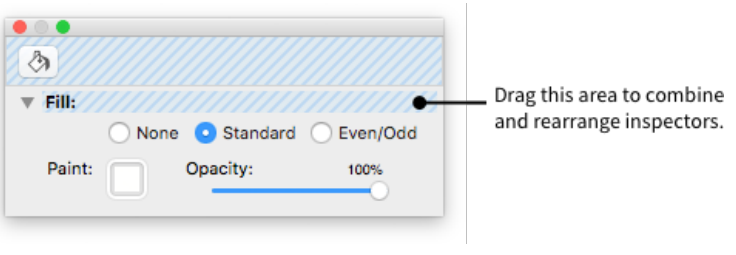
You can select or customize a workspace with the **Window > Workspace** menu. The top section of the workspace menu contains the available workspaces with the current workspace specified by a check mark. To change workspaces, simply choose a new one in this menu section. You can customize a workspace by rearranging inspector panels, adding an *Information Bar* at the top of each document window, customizing the document toolbar, and so forth. To create a new, customized workspace, choose the menu **Window > Workspace > New Workspace**. The new workspace will start as a copy of the one you were just using, but you can customize it from there.

To customize a workspace's inspector layout, choose the menu **Window > Workspace > Customize Workspace**. This enters workspace customization mode and adds

inspector and inspector tab drag and drop targets to all document and floating inspector windows. These drag and drop targets are highlighted with a blue hash pattern. To leave customization mode, select the menu again.



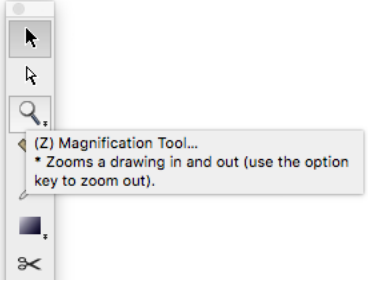
You can group inspector panels together in any combination you choose by dragging the inspector by the area around its title at the top of the panel and dropping it into another position, another window or an inspector tab bar. To add it to a docked pane, drop it into that pane in an existing document window, and to create a new floating inspector window drop it anywhere outside all existing windows. You can also drag inspector tab buttons to move or rearrange entire tabs.



Workspaces are saved as individual files in Intaglio's *Application Support* folder. If you wish to manually manage your workspaces, you can add or remove files from this folder directly. Choose the menu **Window > Workspace > Show Workspaces Folder** to open the folder in the Finder and add or remove files as you wish. You can reset all workspaces to the factory default by quitting Intaglio and removing this entire folder from its parent folder. The next time you launch Intaglio again, it will recreate the folder with the default workspace files. At that point, you can replace any files you wish to retain from your earlier configuration (provided of course, you haven't deleted the old files yet).

The tool palette

The tool palette contains all of the tools you use for drawing. In the workspace menu, you can orient this palette either vertically or horizontally depending on how you prefer to organize your workspace. If you hold the cursor motionless above a tool button for a couple of seconds a help tag will appear to give you the name of the tool, its shortcut character and a description of the tool.



The individual tools are described later in this guide.

The toolbar

When you first launch Intaglio the toolbar at the top of the document window will contain tools to set fill and stroke properties, perform graphic transformations, and open the *Geometry* inspector to edit an object's size and location. You can *right-click* (or *command-click*) on the toolbar to open a contextual menu and select *Customize Toolbar* to rearrange these tools or replace them with others you find more useful. As is described above for the tool palette, holding the cursor motionless above a tool icon in the toolbar will display a help tag with the name of the tool.

The tools in the toolbar fall into these categories:

Fill

Sets the fill paint (i.e., color, pattern, etc.) of selected paths and text blocks.

Stroke

Sets the stroke properties of selected paths and text blocks.

Transformation

Performs graphic transformations such as rotate, shear and flip on the selected graphics.

Miscellaneous

Various other convenience operations such as printing, opening inspectors, and controlling layers and scripts.

Drag and drop

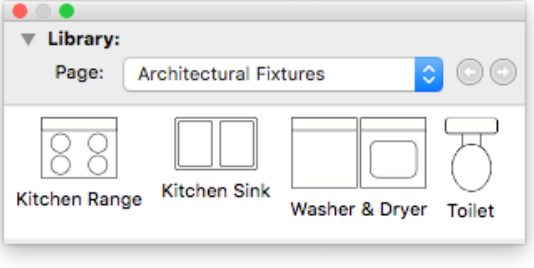
When working on a drawing you may want to include graphics from another application or export your work to another application such as a word processor or web site design tool. Frequently the easiest way to do this is via the standard Macintosh process known as drag and drop.

To import a graphic into Intaglio you can usually just drag it directly into the document window. Graphic types you can import this way include PDF vector graphics and bitmap images in various formats. You can drag the files containing

these graphics into Intaglio from the Finder or you can drag the graphics directly from other applications that support this capability.

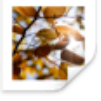
When you drag a graphic object within the document window you're usually just moving the graphic within the drawing, but you can also move a copy of the graphic by holding down the *option* key on the keyboard before you start dragging. To make a copy that you can drag outside of the drawing hold down both the *command* (⌘) and *option* keys on the keyboard before you start dragging, or just click the mouse on the graphic and hold it motionless for a short time (this can be done even when Intaglio isn't the active application and the delay can be adjusted in the tool preferences). When the cursor changes to a *copy* cursor (an arrow with a green ball containing a plus sign) you're ready to drag the graphic to another window in Intaglio or another application. You can cancel this drag at any time by pressing the *escape* (*esc*) key on the keyboard or dragging the graphic to the menu bar at the top of the screen.

The Library inspector (choose the menu **Window > Inspectors > Library**) provides a place for you to store collections of graphics, effects and paint objects to reuse later. To add an item to the library just drag it into the Library window. When you quit Intaglio all the graphics in the library will be saved automatically. To copy a graphic from the library into a drawing just drag it from the Library inspector to the drawing or use the Library inspector's contextual menu to copy or cut it from the library and paste it into the drawing. You can permanently remove a graphic from the library by dragging it to the trash in the Mac OS X dock.



The Library inspector allows you to organize your collections by creating any number of pages. You can create different pages for different types of objects and can share pages with others by importing and exporting them as files. In addition, any photo albums you have created in iPhoto will automatically appear in Intaglio as library pages.

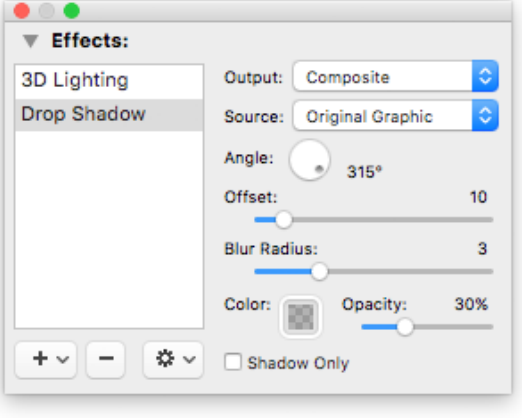
Another way to save objects for later reuse is by dragging them to a Finder window or the desktop. When you do this the Finder will create a *clipping file* that you can drag back into Intaglio later to copy the original object into a drawing (or the library). The *Samples* folder included with Intaglio (when downloaded from our website rather than the Mac App Store) includes a collection of clipping files containing sample shapes and patterns.



Picture clipping

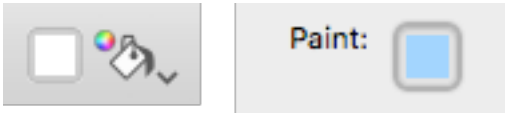
A Finder clipping file (the appearance may vary somewhat with the OS version).

To save effects for reuse in the library or as clipping files, just select the effects in the list in the Effects inspector (choose **Window > Inspectors > Effects**) and drag the list items. You can select more than one effect in the list by holding down the *shift* key on the keyboard as you click in the list. You can also use the contextual menu in the effects list to cut or copy effects and paste them into the library with the contextual menu in the Library inspector.



Paint wells

In addition to graphics and effects you can also drag and drop paint objects (see page 23) in Intaglio. The standard control for paint editing in Intaglio is the *paint well* as shown below as parts of the *Fill* toolbar tool and inspector panel.

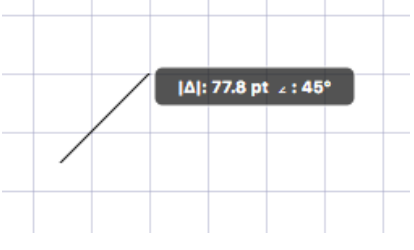


You can click in a paint well to open the standard Mac OS X color picker, or hold down the *option* key when clicking to open one of Intaglio's paint inspectors. In addition to clicking on a paint well to change its color you can drag a paint object from one well to another, or from a paint well to the library or a Finder clipping file. Dragging a paint object to a document window sets the paint of all selected graphics in that window.

When you click in a paint well it is activated, meaning changes in the color picker or paint inspectors (e.g., gradients and patterns) will be applied to that paint well. For example, if you activate the paint well in the fill inspector, selecting a new color in the color picker will change the current fill to that color. The active paint well can be identified by a gray halo around it (see the example image from the fill inspector above).

Interactive Geometry Display

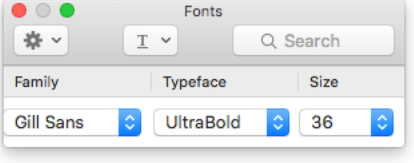
While you drag the mouse to perform most drawing operations, the interactive geometry display will appear near the cursor. This display shows information pertinent to the operation you're current performing. For example, if you're drawing a new line you'll see the line's length and angle. You can turn this display on and off from the *Geometry* inspector (choose **Window > Inspectors > Geometry**), although to see the checkbox you may have to open the disclosure triangle in the bottom right corner of the inspector.



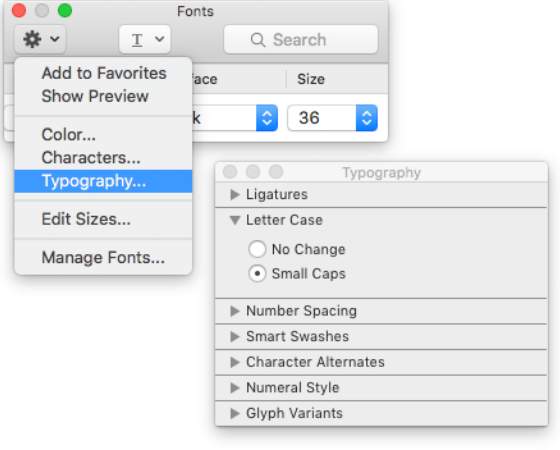
Font panel

The font panel is a standard Mac OS X user interface element you will find in many applications. In Intaglio it can be opened with the menu **Text > Fonts**. The font panel is commonly used to select fonts and sizes, but it has several hidden features that remain undiscovered by even very experienced Mac users, so it's worth describing some of the panel's options here. Since this is a standard Mac OS X panel, the features described here apply both to Intaglio and most other applications using the font panel.

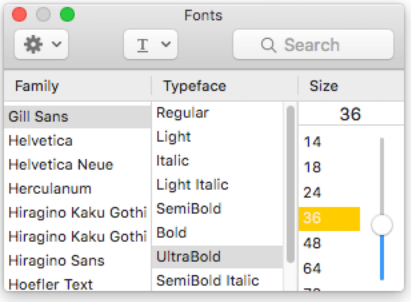
Probably the main reason many font panel options are never discovered is the panel changes as you resize it, revealing different configurations and options. In its smallest state, the panel shows popup menus for fonts and sizes.



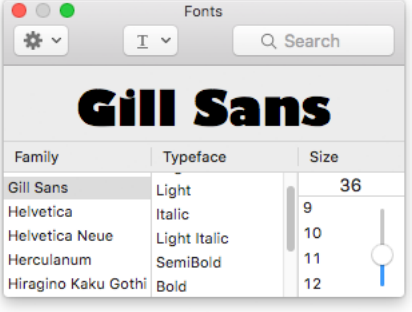
The "gear" popup menu in the top left corner includes several options including the ability to open the *Typography* panel. In Intaglio these font features are also available through the menu **Text > Font Features**, but it can sometimes be convenient to access them through this panel. Also in other applications using the font panel, this can frequently be the only way to access advanced typography features, so it's a good trick to know.



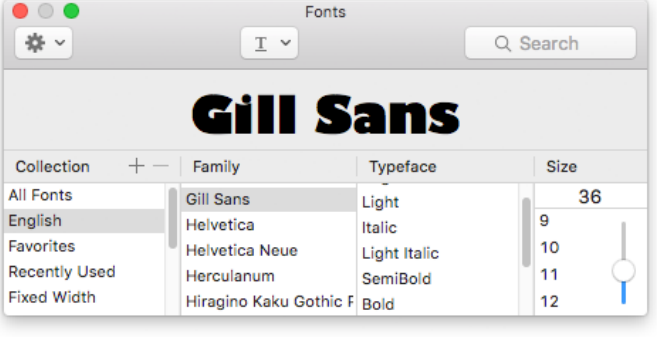
If you make the font panel window a little taller, the popup menus transform into lists.



Dragging down from just under the window's toolbar reveals the font preview area. In recent versions of Mac OS X, this preview can also be revealed from the "gear" popup menu.



If you make the font panel a little wider, the *Collection* list (or popup) is revealed on the left. If you wish, you can create custom font collections here, or just use the predefined collections.



Document Setup

Templates

A template is a starting point for new documents. When you create a new document it uses certain default values which might not all be what you want. To customize your initial document, start with this default and make the changes you want to see in new documents, then save it as a template with the menu **File > Save As Template**. Now you can start from that custom document every time. When you save a template you can make it the default for new documents via a checkbox in the save window, or you can leave it to be selected manually. For example, you may have a variety of common tasks with different requirements. For each task you can create a template tailored to that task, and start each drawing with the appropriate template. Anything you can save in a document, you can save in a template, including graphics, layers, styles and settings.

Templates are managed from the menu **File > New From Template**. The top section of this menu contains the available templates. Choose one of these menu items to create a new document from that template. Templates are saved as individual document files in Intaglio's *Application Support* folder. If you wish to manage your templates manually, you can add or remove files from this folder directly. Choose the menu **File > New From Template > Show Templates Folder** to open the folder in the Finder and add or remove files as you wish.

Autosave

Recent versions of Mac OS X include support for auto-save in applications such as Intaglio. When enabled, this changes some *File* menu item names. For example, *Save As* becomes *Duplicate* and *Save A Copy As* becomes *Export*. Auto-save also includes a document versioning system to track document revisions, accessible through the menu **File > Revert To**. If you prefer to work without auto-save, you can turn it off system-wide for all apps in the system preferences application at **System Preferences > General > Ask to keep changes when closing documents**. Alternately you can turn it off only for Intaglio by running the following AppleScript in the *Script Editor* application.

```
tell application "Intaglio" to set autosave to no
```

Drawing size

A new drawing automatically adopts the size of the current printer page when the drawing is created. If this isn't the size you want, you can change the paper size by choosing **File > Page Setup** and selecting a new size from the *Paper Size* popup menu or changing the page *Orientation*. You can also create custom paper sizes to get an exact document size, or specify a custom size via the **Layout > Drawing Size** menu. However since Intaglio isn't a bitmap editor you generally don't need custom drawing sizes. Instead you can just export an image at the size you need.

A drawing is generally a single page, but you can create larger drawings that span multiple pages by choosing **Layout > Drawing Size**. This expands the drawing into a single large area with pages placed side by side. To see where the edges of each page will fall when printing choose **Layout > Show Page Breaks**.

Color space

Intaglio uses Apple's *ColorSync* technology to match the colors on the screen to the colors on the printer. When a new drawing is created it automatically adopts the color space of the current printer as its default color space. The default color space is applied to the colors used by new graphics when they are added to a document for the first time. If you prefer new documents to use a specific default color space (e.g., CMYK instead of RGB) you can change this in the document preferences. You can also change the default color space and the color profile used for each color space in an individual drawing by choosing **Layout > Color Space**.

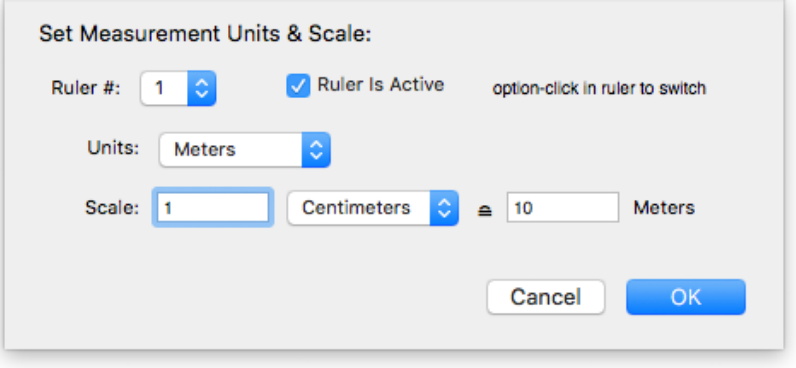
Printers will frequently specify a CMYK (i.e., cyan, magenta, yellow, black) color space, since those are the colors used for printing. This means Intaglio will frequently create new documents with the color space set to CMYK, when using the default settings, and when printed, your drawing will most closely match what you see on the screen. However if you're not creating a document primarily for printing, you may notice the colors on screen aren't as bright as you expect. In this case, you're better switching to an RGB (red, green, blue) color space, either by changing the default for new documents, or for each new document in the **Layout > Color Space** menu.

Export & effects resolution

Whenever Intaglio exports a bitmap image or creates one for a special effect it uses the drawing's *export resolution*. The default export resolution is the same as the standard Macintosh screen resolution—72 dots per inch. You can change the export resolution of the current drawing or change the export resolution of all new drawings by choosing **Layout > Resolution**.

Drawing scale & units

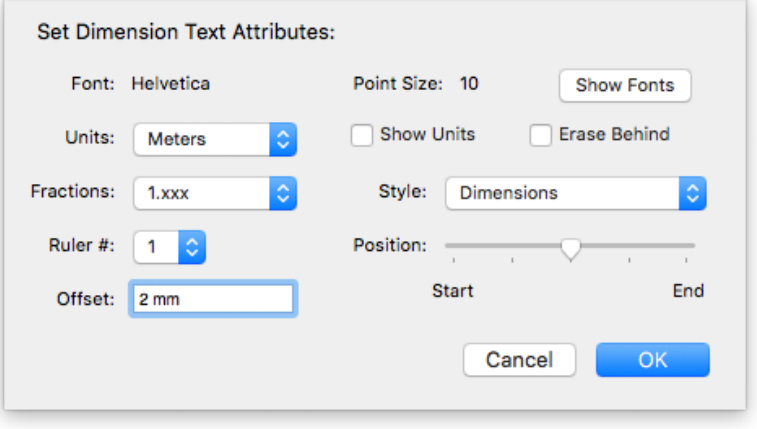
Intaglio allows you to create scaled drawings in much the same way as a CAD system (although not with as many options). You can set a drawing to convert one set of units on screen into something else in the drawing. For example perhaps you want ¼ inch in your drawing to represent one foot in the real world. In this case you can enter the sizes of objects and add dimensions in feet and let Intaglio convert those final measurements into the correct values in your drawing. Suppose you want one centimeter on your printed drawing to represent ten meters in the real world. To set your drawing this way choose **Layout > Measurements**, set the *Units* popup to *Meters* and set the *Scale* to convert *1 Centimeter to 10 Meters* as shown below.



You can create up to eight different scale and unit combinations within each drawing. To switch from one set to the next, hold down the *option* key on the keyboard and click the mouse in one of the drawing's rulers. To show the rulers in a drawing choose **Layout > Show Rulers**.

Dimension text

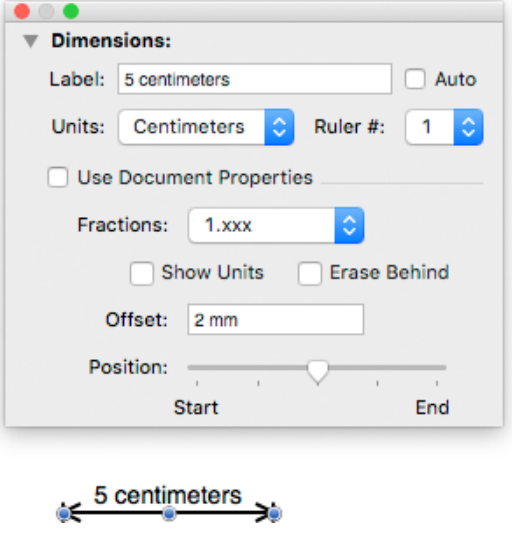
If you've set the drawing scale and units in the section above you may want to let Intaglio calculate the length of lines and automatically add text to your drawing to indicate that value. Any lines added to a drawing with the *Dimension* tool (see page 26) will automatically add text to the drawing using the drawing's dimension options. These options include the font and size of the text, its format, and its position in the drawing in relation to the dimension line. To continue the example above where one centimeter represents ten meters you'll probably want your dimensions displayed in meters using decimal fractions. Assuming you want the text to display the units (i.e., meters) and use the *Helvetica* font with a size of ten points, you would choose **Layout > Dimensions** and set the dialog controls as shown below. In this example, the dimension lines will automatically adopt the *Dimensions* style, which the user has already created. This allows properties like color, width and arrow style to all be adjusted later for all dimension lines at once.



The units used for dimensions are independent of the units specified for measurements via the menu **Layout > Measurements** (described above), but the scale is used from whatever measurement ruler is specified for use with dimensions. For example, if the scale of Ruler #2 in *Measurements* is set to 1 inch = 48 inches and dimensions are set to show Ruler #2 in feet, a one inch dimension line in the drawing will be labeled as 4 feet.

The menu **Layout > Dimensions** sets the default dimension text properties of the document, but you can also customize the properties of individual dimension lines using the *Dimensions* inspector (choose **Window > Inspectors > Dimensions**). For

example, you can change how the text is displayed or supply the exact text for an individual line instead of allowing it to be calculated automatically from the line's length. In addition, you can customize the text font and size for individual dimension lines using the *Fonts* panel (choose **Text > Fonts**).



Grid

The drawing grid is helpful for maintaining a perspective in your drawings and for aligning elements. It can be used with or without an automatic *snap* to the grid line intersections. If you've set the drawing scale and units in the sections above, the grid can be specified in the drawing's final units. Grid lines are never visible when the drawing is exported as an image, but can optionally be added to printed drawings (via **Layout > Set Grid**) or PDF images exported from the print window.

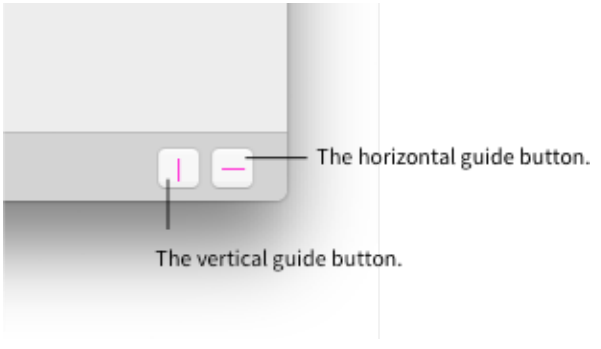
To set the grid dimensions and color choose **Layout > Set Grid**. To turn the grid snap on and off choose **Layout > Snap To Grid**. The grid snap is independent from the grid's visibility. You can still snap to the grid when it is invisible or vice versa. To hide the grid choose **Layout > Hide Grid**.

In addition to the ability to snap to grid line intersections, you can also snap to the anchor points of a path. To turn point snap on and off choose **Layout > Snap To Points**.

Guides

You can add horizontal and vertical guide lines to a drawing to help align graphics. Graphics will snap to guides but the guide lines are never visible in any printed or exported form of the drawing. To add a guide to a drawing, drag the mouse from one of the guide buttons (or rulers) in the document window out into the drawing area.

Once you've added a guide to a drawing, the edges and centers of graphics will snap to it as you drag the graphic past the guide. Graphics will snap to guides whenever they are visible. To hide all the guides in a drawing and disable guide snap choose **Layout > Hide Guides**.



When you create a new drawing its guides are locked. This means you can add new guides and they won't get in your way when you're trying to select graphics, but it also means you can't move or delete existing guides individually. If you want to move or delete a guide choose **Layout > Unlock Guides** and drag the guide to a new location or off the edge of the drawing completely if you're done with it. You can remove all the guides from a drawing at any time by choosing **Layout > Clear Guides**.

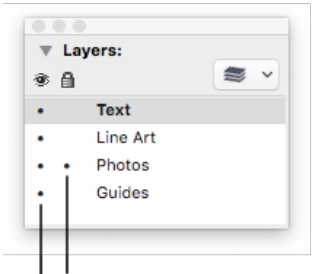
Smart guides are automatically created at the centers and along the edges of the existing graphics in a drawing. When smart guides are enabled they automatically appear as you approach them. This makes it easy to align a new graphic to an existing graphic, or move or resize one graphic to align it with another. To turn smart guides on and off choose **Layout > Smart Guides**.

Layers

As a drawing starts to become complex it can be very useful to split it into more than one layer. A layer is simply a collection of graphics all drawn together. All of the graphics in the first layer are drawn before those in the second layer and so on. This means the graphics in the first layer appear under those in all succeeding layers. A layer can be used simply for its organizational benefits but its real power comes from the ability to hide and lock individual layers. A hidden layer is invisible in the drawing and is a good way to keep things out of the way to reduce clutter. If you're working on one section of a drawing it can be useful to hide the other sections so they're not in your way. Sometimes you want to be able to see certain graphics but not select them. For example, you may have a colored background under your entire drawing that you want to see but not interact with. In this case you can put the background graphics into a locked layer so they're visible but can't be selected when you click the mouse on them.

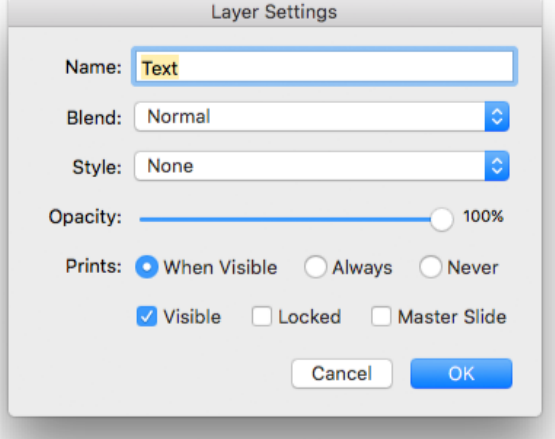
Layers can be managed through the *Layers* inspector (choose **Window > Inspectors > Layers**), a document window annunciator, or the optional layer management tool for the toolbar. To change the name, blend, style or specify the printing properties of a layer open the *Layer Settings* dialog.

The Layers inspector



Mark this column to lock a layer

Remove the mark in this column to hide a layer

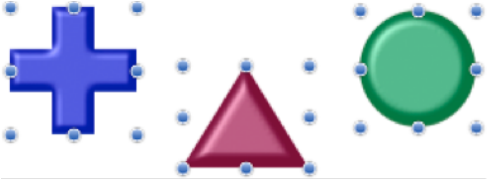


Drawing With Intaglio

Selecting graphics

To edit graphics in Intaglio you must first select them. To select graphics you use the Selection tool in the Tool palette (see page 8):

Each selected graphic displays “handles” around its edges you can use to resize the graphic.



3 Selected Graphics

To select a graphic with the Selection tool you just click the mouse on it. To select more graphics you can click on them one by one while holding down the *shift* key on the keyboard, or you can use the Selection tool to draw a rectangle around them. Normally the Selection tool will select only the graphics you enclose completely with the rectangle. If you hold down the *option* key on the keyboard, the Selection tool will select any graphic the rectangle overlaps.

Selecting multiple graphics with a rectangle.

Paint

Intaglio uses *paint* objects to fill and outline graphics. There are four types of paint objects including solid colors, gradients, patterns and textures. A solid color uses either the *RGB* (red, green, and blue), *CMYK* (cyan, magenta, yellow, and black), or *Gray* color space. It will automatically use the drawing's ColorSync profile for that color space (see page 16). A gradient is a combination of two or more solid colors (see page 43). A pattern in Intaglio is any collection of graphic objects (not just a small bitmap image) used to tile a larger area (see page 45). A texture is an image, either imported or generated within Intaglio (see page 47)

Graphic objects

There are three basic types of graphic objects in Intaglio—paths, text, and images.

Paths

A path is an abstract shape made up of any combination of lines, curves, and arcs. A path may be anything from a simple line or rectangle to a giant blob with bumps and holes. The inside area of a path must filled with paint, or the outline of a path must be stroked with paint, or the path can be both filled and stroked.

Text

Text is a block of international characters and can be treated much like a path whose shape is defined by a font designer using the characters and size you have chosen. Most of the time, text in a drawing is just ordinary paragraphs and labels, but text can also be treated as a graphic design element. Like paths, text blocks must be either filled, stroked, or both. Text usually follows a horizontal base line but it can be vertical or even follow the outline of a curved path.

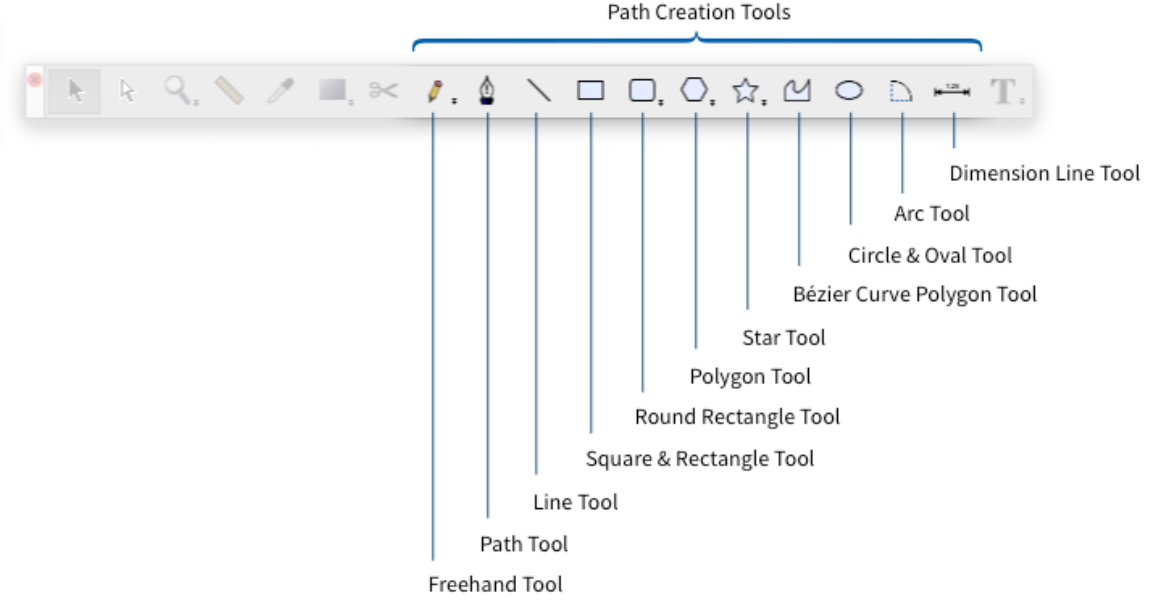
Images

An image is any graphic you've imported into Intaglio. Images can be imported from a wide variety of bitmap and vector file formats, or directly from another application using *copy and paste* or *drag and drop*. The bitmap image formats Intaglio supports include PNG, TIFF, JPEG and many others. The vector image formats Intaglio supports internally are PICT (vector), PDF, and EPS. Intaglio also allows you to convert several vector formats into Intaglio graphics for editing. These include SVG, ClarisDraw and AppleWorks 6 drawing files. These files are translated directly into Intaglio graphics rather than including them as an image object. To open an SVG, ClarisDraw or AppleWorks file in Intaglio choose **File > Open** and select the file.

Please note, the PICT format (i.e., QuickDraw picture) is an old image format used heavily by the classic Macintosh prior to Mac OS X. Since moving Mac OS X to 64-bit processors, Apple has stopped fully supporting this format. For compatibility, Intaglio uses an additional 32-bit application invisibly in the background to process PICT images. However it's likely that eventually this will stop working as Apple moves forward with new features in Mac OS X. Therefore if you use PICT regularly you should consider changing your workflow to another format, such as PDF or SVG.

Drawing paths

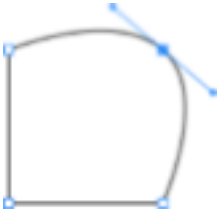
There are several tools in the Tool palette (see page 8) to create new paths. All of these tools create path objects but each specializes in creating a different type of path. However once you've created a path with any of these tools it isn't really any different than a path created with any other tool. After editing a path, you can use the **Object > Reshape** menu to return it to the tool used to originally create it for changes. For example, you can reshape a round rectangle to change the radius of the arcs used in the corners.



Point selection tool

Once you've created a path you can edit its segments with the *Point Selection* tool:

When you select a path with this tool the control points of each of its segments are highlighted so you can select and edit each point. The process of editing these points is virtually identical to the process of creating them using the *Path* tool (see page 29), with one addition. To add to the end of an an existing path select the path, hold down the *option* key on the keyboard, and click the mouse on a path end point (or click and drag for a curve).



Scissors tool

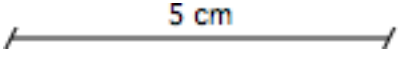
Divides an existing path into two sub-paths within a compound path (see page 35), or adds a control point to a path. Just click the mouse on the point where you want to break the path. To add a control point to a path without breaking it, hold down the *option* key on the keyboard as you click the mouse

Line tool

Draws a straight line. To constrain the line to be horizontal, vertical or a 45 degree angle hold down the *shift* key on the keyboard as you draw it. To center the line at the point where you first clicked the mouse hold down the *option* key.

Dimension line tool

Draws a straight line with a text label indicating the length of the line. This is useful for adding dimension lines to scale drawings. The format of the label is determined by the drawing's dimension settings and the *Dimension* inspector (see page 18). If you resize the line some time after creating it, the text label will be automatically updated to indicate the new length. If you change the drawing's scale or dimension settings the text label will also be updated.



Rectangle & oval tools

To constrain the path to a square or circle (versus a rectangle or oval) hold down the *shift* key on the keyboard as you draw it. To center the path at the point where you first clicked the mouse hold down the *option* key as you draw.

Arc tool

Draws circular arcs. This is a two step process. First click the mouse and drag it to define the arc's radius and start angle, then release the mouse and drag it again to

define the arc's end angle. Hold down the *option* key on the keyboard during the second step to create a pie shape instead of a simple arc.

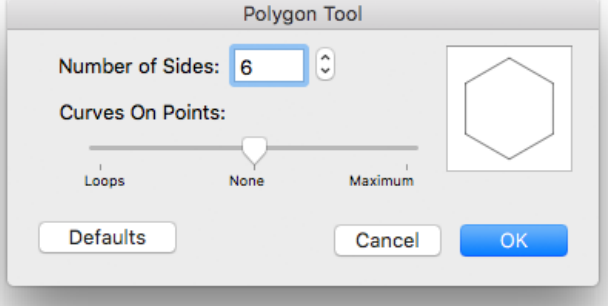
Step 1: Step 2:

Bézier Curve Polygon tool

Draws polygons whose sides are curves or straight lines. This is easier to use but provides less control than the *Path* tool described below. To create a vertex for a curved side just click the mouse button. To create a vertex for a straight side hold down the *option* key on the keyboard while clicking the mouse button. To complete the path, double click or type the *esc* key on the keyboard.

Polygon tool

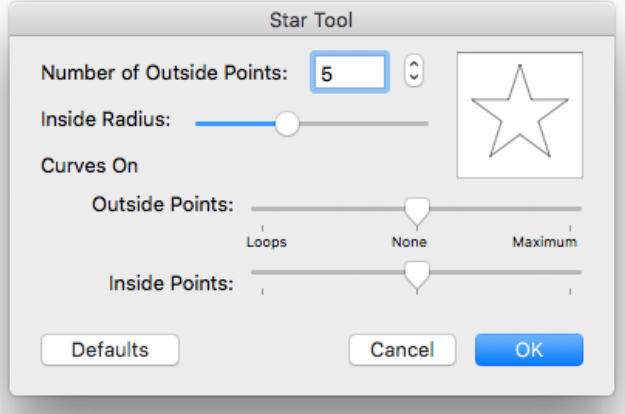
Draws polygons with a fixed number of sides. To fix a vertex or side at the top of the polygon hold down the *shift* key on the keyboard while drawing. To swap the sides and vertices hold down the *option* key. You can set the number of sides and the curvature at the vertices of the polygon to be drawn by double-clicking the mouse on the polygon tool icon in the Tool palette. To adjust these properties after drawing the polygon, choose the **Object > Reshape** menu.



Star tool

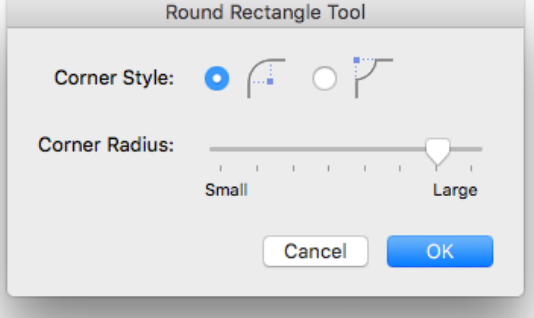
Draws paths in the shape of stars and flowers. To constrain a vertex at the top of the shape hold down the *shift* key on the keyboard and drag upward while drawing. This

will force an outside vertex to be straight up. To swap the inside and outside vertices hold down the *option* key. You can set the number of vertices, inside radius and the curvature at the vertices of the shape to be drawn by double-clicking the mouse on the star tool icon in the Tool palette. To adjust these properties after drawing the star, choose the **Object > Reshape** menu.



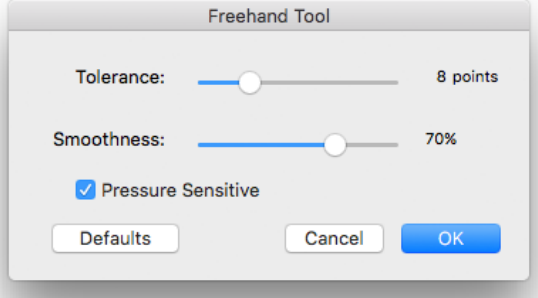
Round rectangle tool

Draws rectangles with arcs for corners. The corners can be either convex or concave and the size of the corners can be adjusted by double-clicking the mouse on the Round Rectangle tool icon in the Tool palette. To adjust these properties after drawing the round rectangle, choose the **Object > Reshape** menu.



Freehand tool

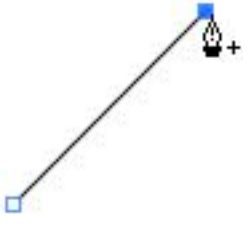
Draws a multi-segment line as you drag the mouse. When you release the mouse button Intaglio smoothes the line you've drawn according to the current tool parameters. You can adjust the smoothness of the line and the tolerance for its deviation from the original line by double-clicking the mouse on the Freehand tool icon in the Tool palette. Depending on the tool settings the resulting path may be composed of straight line or curve segments. When using a pressure sensitive tablet, the pressure applied while drawing can be used to create a variable stroke width for the final path.



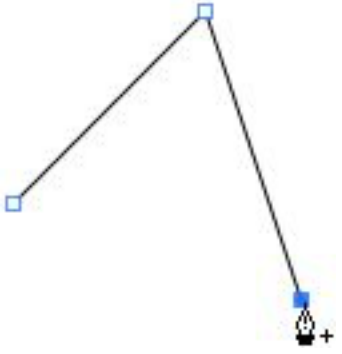
Path tool

Creates simple or complex paths containing one or more straight lines and/or curves. The path tool takes a little time to master, but with it you can create paths of virtually any shape. For an easier way to create polygon shapes with straight or curved lines see the *Beziér Curve Polygon* tool described above.

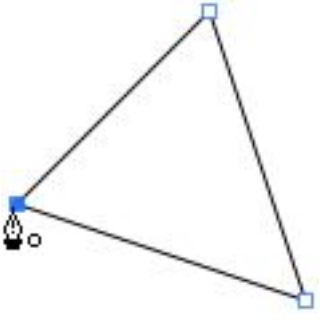
To start a path at a point click and release the mouse button at that point. To add a straight line segment click and release the mouse button to create the end point of the line. For example, this line was created by clicking the mouse twice, once for each end point.



To add another line click again.

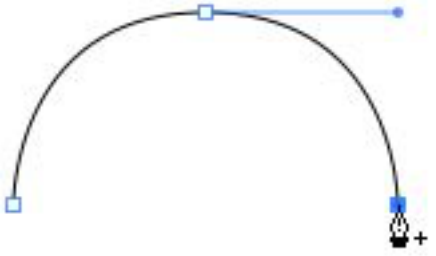


To close the path, place the cursor over the first point, hold down the *option* key on the keyboard, and click the mouse one more time.

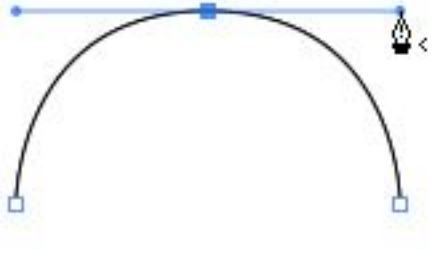


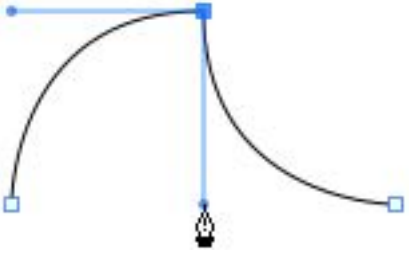
To add a curve segment click and drag the mouse to create the end point of the curve. The point where you click the mouse button becomes the end point and the point where you release it becomes the first control point. For example, this curve was created by clicking to create the start point, then clicking and dragging to create the curve point at the end.

To add another curve click again.



In the first image below, the control points are on the end of a straight line with the common end point for the two curves in the middle. Intaglio automatically keeps this line straight by moving the control points together to ensure that the transition between these two curves is smooth. Sometimes you want the transition between two curves to be abrupt rather than smooth. To break the straight line, and thus the smooth connection between the curves, place the cursor over a control point, hold down the *option* key on the keyboard, and move the control point. This control point will now move independently of the opposite control point.

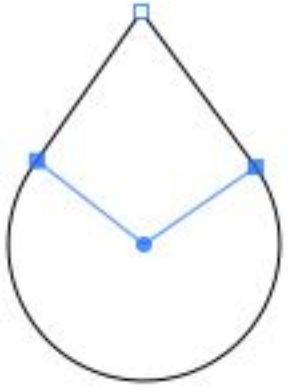




To change an abrupt transition between two curves back to a smooth transition, place the cursor over the common end point, hold down the *option* key on the keyboard, and drag the mouse to create new control points.

Paths can also contain arcs. To add an arc to a path, create a new path containing the arc using the Arc tool and join the two paths into one by choosing **Object > Paths > Join**. You may have to reverse the arc's path to get it to join on the end you want by selecting the arc and choosing **Object > Paths > Reverse**.

For example, the path below is an arc connected to two straight line segments:



Once you've created a path, you can edit the points in the path using the Point Selection tool (see page 25). The behavior of this tool is very similar to this description. To use the Path tool again with an existing path, select the path with the Point Selection tool, hold down the *option* key on the keyboard, and click or drag one of the path's end points. You can now add new points to the end of the path with the Path tool.

Arrows

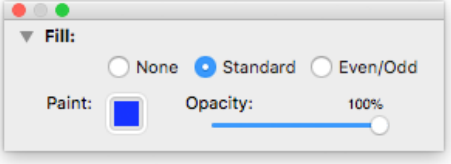
An arrow can be added to the start and/or end of a path from the stroke inspector (choose **Window > Inspectors > Stroke**) or the arrows menu in the toolbar. The stroke inspector must be expanded to reveal the arrow controls. Intaglio includes several predefined arrow styles you can choose quickly, or you can define custom arrows by editing an existing style or creating a new arrow from scratch.

To create a custom arrow choose **Edit > Arrows**. When you customize an arrow you can use the standard path drawing tools to add, edit or delete one or more paths within the arrow. Arrows can adjust the length of the line they're attached to (so the end of

the line doesn't extend beyond the arrow) and they can warp to follow a curve on the end of the line. There are also multiple scaling options for arrows.

Filling paths

When you specify the fill paint for a path, the interior of that path is painted with the specified paint object (which might be a solid color, gradient, pattern or texture—see page 19). For most paths it's easy to tell where its interior is, but for more complex paths this isn't always so obvious. For example suppose you want to create a path with a hole in the middle like a doughnut. For this you need a way to fill some parts of the path and leave other parts unfilled. Intaglio uses two different fill techniques to decide what the inside a path is, and thus what area will be filled. These fill modes are called *Standard* and *Even/Odd*. You can specify a path's fill mode with the *Fill* inspector by selecting the path, choosing **Window > Inspectors > Fill**, and selecting the button for the fill mode you wish to use.

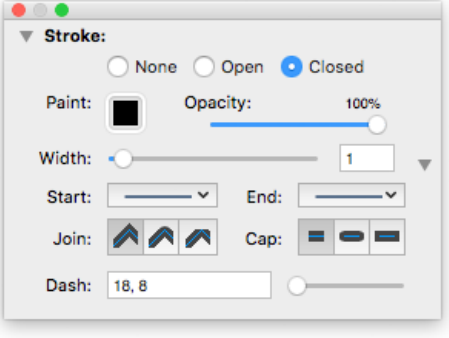


The two fill modes differ only in the way they decide where the inside of a path is when the path contains segments that overlap. The even/odd method considers an area to be inside a path if you've had to cross an odd number of path segments to get to it. The standard method considers an area to be inside a path if you've crossed more clockwise segments than you have counter-clockwise segments or vice-versa (in technical circles this is called *the non-zero winding rule*). For example consider the inside of the following star shaped path. Since the star is a series of lines connected in a clockwise direction the entire star is filled using the standard fill mode, however because the innermost part of the star is within two lines (an even number) it isn't filled when using the even/odd fill mode.

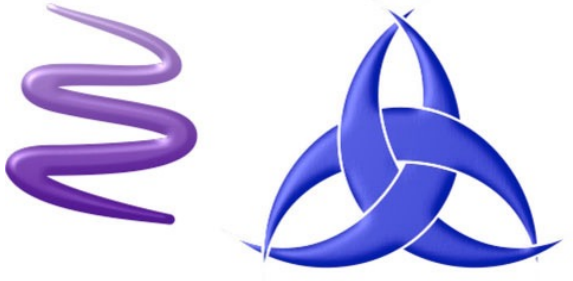
Intaglio generally uses the standard fill mode and you can usually ignore this setting unless you have a specific need for the even/odd fill behavior. For a further explanation about how to take advantage of fill modes read about compound paths in the next section.

Stroking paths

When you specify the stroke paint or width for a path, the outline of that path is painted with the specified paint object (which might be a solid color, gradient, pattern or texture—see page 19). Open lines can be capped with round or square ends and the joins between multiple segments can be round, mitered or beveled. You can specify these options with the Stroke inspector by selecting the path, choosing **Window > Inspectors > Stroke**. Dashes can be applied from the menu in the toolbar, or by specifying a pattern in the inspector's *Dash* field. To specify a custom dash, enter a series of numbers representing a pattern of line and space values (whose units are in points). This dash pattern will be repeated along the entire outline and the pattern's phase can be adjusted with the slider next to the field.



The width of a path stroke can be varied at the path's control points, or by the pressure applied on a tablet while drawing freehand. To control the width of a stroke at a particular control point, select that point with the Point Selection Tool (see page 25) and make the adjustments with the Variable Stroke Width inspector (choose the menu **Window > Inspectors > Variable Stroke Width**).



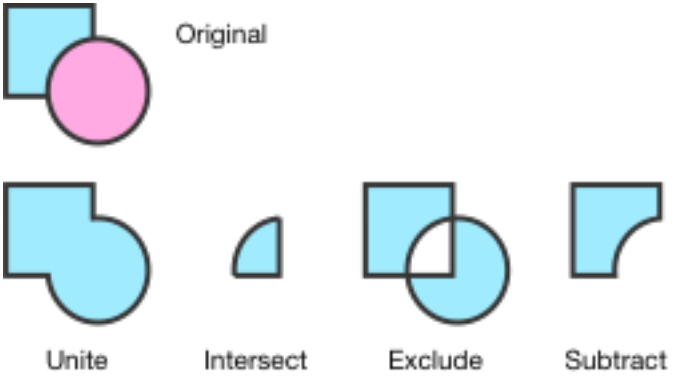
Path operations

If you want to create complex shapes it is sometimes useful to combine two or more paths to create a single more sophisticated path. A *compound* path is a single path made up of two or more separate sections. For example, the ring in the image below is a single path made up of two circles. The arrows have been added in this image to illustrate the direction of each circle. Since this path is using the standard fill mode (see the previous section for an explanation of fill modes) and the circles are defined in opposite directions the center of the ring is unfilled.

A compound path with clockwise and counter-clockwise segments.

To create a compound path select two or more paths and choose **Object > Paths > Combine**. To break a compound path back into separate paths select the compound path and choose **Object > Paths > Separate**. To reverse the direction of a path that will be a section of a compound path (such as the inner circle in the image above) select that path a choose **Object > Paths > Reverse** before you create the compound path.

Another way to combine paths to create complex paths is with the path operation commands in the **Object > Paths** menu.



Unite
The edges of resulting path consist of the outer edges of all the original paths combined.

Intersect
The resulting path consists of the area where all the original paths overlap.

Exclude
The resulting path consists of the area where the original paths overlap an odd number of times.

Subtract
The resulting path consists of the area occupied by the rear-most original path but no other.

Drawing text
You can create and edit text blocks using the Text tool in the tool palette (see page 8):

To create a new text block choose the text tool in the Tool palette, click the mouse in the drawing where you want the text, and start typing. To edit existing text choose the Text tool and click the mouse on the text block you wish to edit (this works even if the text block is within a group). A short cut to create a new text block is to click the

mouse at the point in the drawing where you want text, type the *return* key on the keyboard, and start typing the new text. If you select an object in the drawing and type the *return* key the new text block will be centered over the object you selected, unless that object is a text block. In that case you'll just start editing the text in the block.

Text flow

When you select a text block a small triangle appears with the selection handles on the right side of the text block near the bottom. You can drag this handle to adjust the text flow width of the block graphically. Adjusting this value changes the location where a line of text wraps around to the next line. You can also adjust this value numerically in the Text inspector (choose **Window > Inspectors > Text**).

Font features

The menu item **Text > Font Features** contains a submenu that changes to reflect the features available in the currently active font. Not all fonts have added features but some have several. A few fonts such as *Apple Chancery* and *Hoefler Text* have many features. Typical features include ligatures and other special characters, letter case (e.g., small caps), number styles, and vertical position. The features listed in the menu are grouped by category. If you hold the cursor over a menu item, the name of the category will appear in a tip window next to the menu.

Kerning

Kerning is the space between adjacent characters on a line. Kern values can be applied to an entire text block or a character range within a text block.

Leading

Leading adjustment changes the space between lines of text. Normally Intaglio adjusts line spacing for the best appearance of multiple lines with varying heights, so the leading value specified is followed only loosely. To get more control over line spacing, choose the menu **Text > Line Spacing > Loose**.

Baseline

Baseline adjustment moves the base of the characters perpendicular to the line. Since most lines of text are horizontal, the baseline adjustment typically moves text vertically. This can be applied to an entire text block, but it's generally most useful to apply it to characters within the block. In the example below, the subscript was created by moving the baseline of the zero down and the superscript was created by moving the baseline of the exponent up. Superscripts and subscripts can be applied directly from the menu **Text > Baseline**, or with the Text inspector.

$$m = m_0 e^{-\lambda t}$$

Line direction

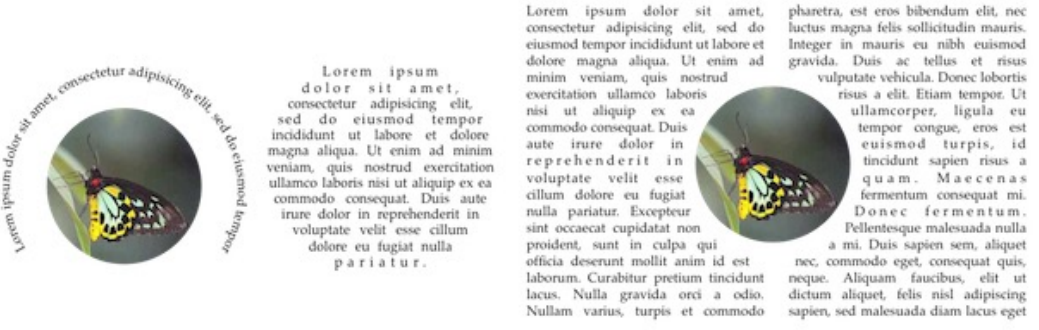
Line Direction is a property of a text block that may override the default system line direction (e.g., right to left vs. left to right). For example, the Arabic and Hebrew languages use a right to left writing system.

Text as a graphic element

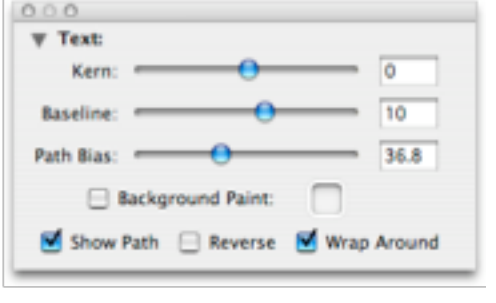
From a graphic point of view, text is normally just filled with a solid color, but you can use virtually all of the path treatments described in the previous section on a block of text. These include gradient fills and stroke options to create outlined text. You can even use the stroke dash and brush options on a text block. There are a few situations where a path is more useful than a text block. For example, you can edit the shape of a path but you can only change the characters and font of text. In these cases, you can convert a text block into a path by choosing **Object > Convert > Text To Path**. This will usually create a compound path so you may want to then break the character shapes out into individual paths by choosing **Object > Paths > Separate**.

Binding text to a path

A block of text can be bound to a path to either fill that path or follow it. This allows the text to flow into irregular shapes and to follow arcs and curves.


Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Curabitur pretium tincidunt lacus. Nulla gravida orci a odio. Nullam varius, turpis et commodo pharetra, est eros bibendum elit, nec luctus magna felis sollicitudin mauris. Integer in mauris eu nibh euismod gravida. Duis ac tellus et risus vulputate vehicula. Donec lobortis risus a elit. Etiam tempor. Ut ullamcorper, ligula eu tempor congue, eros est euismod turpis, id tincidunt sapien risus a quam. Maecenas fermentum consequat mi. Donec fermentum. Pellentesque malesuada nulla a mi. Duis sapien sem, aliquet nec, commodo eget, consequat quis, neque. Aliquam faucibus, elit ut dictum aliquet, felis nisl adipiscing sapien, sed malesuada diam lacus eget

To bind a block of text to a path, select both the text block and path and choose the menu **Text > Path Binding > Bind Text To Path**. Text normally follows a straight baseline, however you can cause the bound text to follow the outline of the path it is bound to by choosing the menu **Text > Path Binding > Attach Baseline To Path**. Now the text inspector changes to allow you to adjust the text's location in relation to the path. For example, you can adjust the *Path Bias* slider to set where the text starts on the path and select *Reverse* to put the text inside the path instead of outside it.

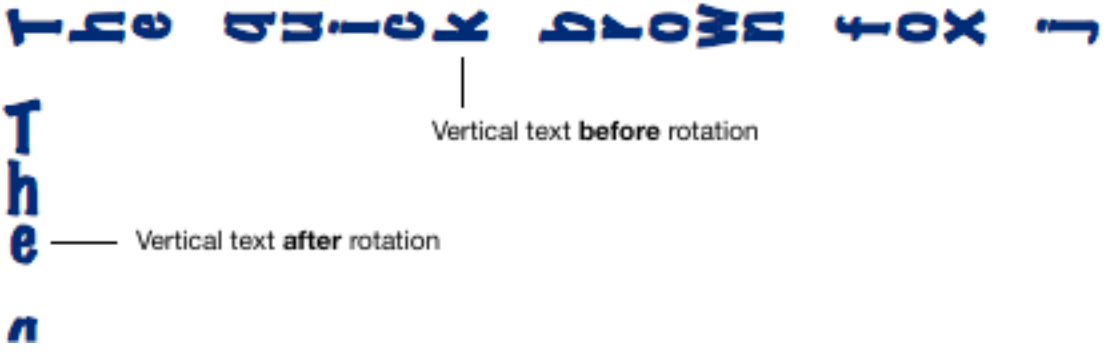


A text block can only be bound to a single path, but it can be a compound path (see page 35). This allows holes in the text flow and multiple columns. For example, within a compound path with a hole, text will flow around the hole. A compound path without overlapping subpaths can be used to create multiple columns. To cause the text to flow completely into one subpath before starting in the next, choose the menu **Text > Path Binding > Multiple Columns**.

You can also choose to see the path a text block is bound to or make it invisible and you can edit the text without unbinding it by choosing the menu **Text > Path Binding > Focus Bound Path**.

Vertical text

To create vertical text select the text block and choose **Text > Vertical**. This rotates each character so that it appears to be laying on its side. Normally you'll then want to rotate the text block -90 degrees by choosing **Object > Rotate**. The image below shows the text block before and after rotation.



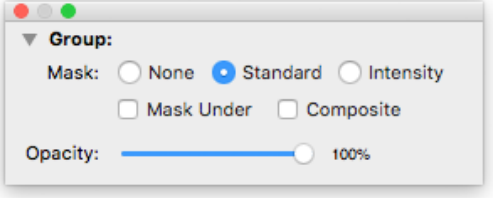
Groups and Masks

One of the basic elements in any drawing application is the object group. A group is just a collection of multiple graphics that are treated as if they were a single graphic object. To create a group select two or more graphics and choose **Object > Group**. To remove the graphics from a group, select the group and choose **Object > Ungroup**.

Sometimes it is useful to be able to edit the graphics within a group without destroying the group by ungrouping it. For example, perhaps the group contains effects or uses a mask (see below) that you don't want to lose. To edit within a group choose **Edit > Focus Group**. Once editing has been focused on a group all future editing will take place within that group. You can add or remove objects, rearrange them or

whatever you wish. You can also further refine the editing focus to a group within the focused group. When a group is focused graphics outside the group are inaccessible and will appear dim in the drawing. To step back out of the focused group choose **Edit > Unfocus Group**.

The Group inspector allows you to perform several advanced graphic functions on a group. To open the group inspector choose **Window > Inspectors > Group**.



You can set the *opacity* of a group independently from the opacity of the group's elements. The elements of a *composite* group are drawn separately before any group properties are applied. For example, in the image below the three circles are grouped. The group on the left is 100% opaque, but the other two groups are partially transparent so you can see the gray bar through them. However the group on the right is a composited group so you only see the gray bar through the group. You don't see green and red circles through the blue circle in the composited group the way you do in the non-composited group.

Another powerful property of a group is the ability to have a *mask* element. The elements of a masked group are only visible inside one of the group's elements (i.e., the mask). For example, in the image below the transparent ellipse and the text block are grouped and the ellipse is used to mask the text. Notice how the text doesn't appear anywhere outside of the ellipse.

The usual behavior of a masked group is to make the top element in the group invisible but use it to mask all the other elements. You can also choose the *Mask Under* option in the Group inspector. In this case the bottom element of the group is used to mask the group but in this case the mask element remains visible. For example, in the image below the group is masked by the red rectangle at the bottom but the rectangle is still drawn.

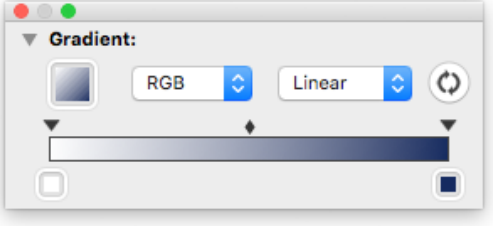
The area that is visible in a masked group is determined by where the interior of the masking element is. This is similar to setting a fill color for the object except instead of drawing a color, Intaglio draws the group. An *Intensity* mask uses a slightly different technique to draw the group. The lighter an area of the masking element is, the lighter the masked group will be drawn in that area. Where the masking element is dark the group will be drawn at full intensity, but where the masking element is lighter the group will be correspondingly lighter.

Gradients

Gradients can be used to fill or stroke paths and text blocks. Three steps are required to add a gradient to a graphic.

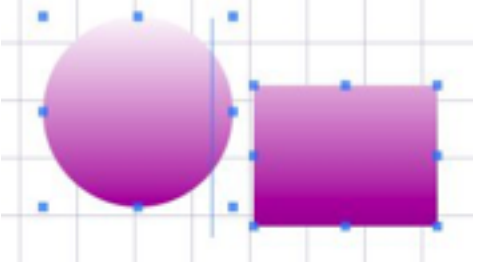
• First, select the graphic and choose **Window > Inspectors > Fill** or **Window > Inspectors > Stroke** to open the Fill or Stroke inspector, ensure the style isn't "None" in the inspector, and click the mouse in the inspector's paint well to activate the fill or stroke attribute.

• Second, create the gradient. Choose **Window > Inspectors > Gradient** to open the Gradient inspector and create a new gradient with the colors and other characteristics you desire. This gradient will automatically be applied to the fill or stroke of the selected graphic depending on which paint well you selected in the first step.



• Third, you can optionally set the start and end points of the gradient for the graphic. While the graphic is still selected, choose the Gradient tool in the Tool palette (see page 8) and drag a line defining the gradient points for the graphic.

Note that if you're setting the gradient points for more than one graphic the gradient will blend together where these graphics overlap.



There are two types of gradients, *linear* and *radial*. A linear gradient uses the first color at the start point and changes along a straight line to the end point. A radial gradient

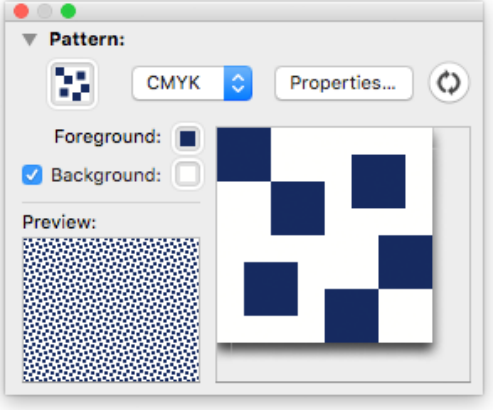
uses the first color at the start point and changes along the radius of a circle to the end point. In other words, the gradient forms a circle whose center is at the start point and whose outer edge is at the end point.

Linear Gradient

Radial Gradient

Patterns

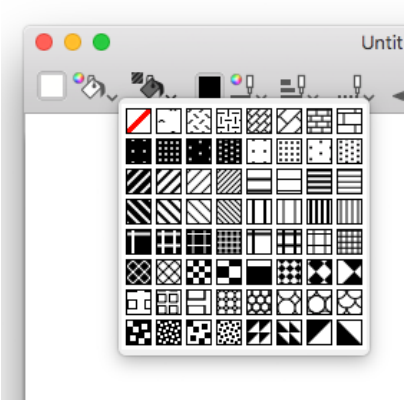
Patterns are small drawings which are drawn repeatedly, side by side to form a tiled image where each tile is a copy of the original pattern. To open the Pattern inspector choose **Window > Inspectors > Pattern**.



Unlike some older drawing applications, Intaglio patterns are complete vector drawings rather than just small bitmap images. Therefore a pattern can contain virtually any kind of graphics (including small bitmap images).

You use the standard drawing tools to create the pattern in the panel on the right side of the inspector. You can also copy graphics from a standard drawing and paste them into the pattern, create an entire pattern by dragging graphics into a paint well, or choose **Object > Convert > To Pattern** to create a new pattern from the graphics currently selected in a drawing.

Intaglio provides several predefined vector patterns in the fill and stroke pattern menus in the toolbar. These patterns are all supplied in black and white, but it's easy to apply other colors to them in the Pattern inspector. You can also use the Pattern inspector's drawing capabilities to customize them in other ways, such as changing the scale.



A pattern can have an optional background color. When a pattern is drawn, any background color is drawn behind all other pattern graphics. If a pattern doesn't have a background color, areas where there aren't any graphics will be transparent when the pattern is drawn. The background color is specified by the check box and corresponding paint well in the Pattern inspector. The Pattern inspector also contains a foreground paint well. Unlike the background color, the foreground color isn't actually a property of the pattern itself. The Pattern inspector fills the foreground paint well with the fill color of the graphics in the pattern. If the graphics don't use a fill color the inspector uses the stroke color and if the graphics don't use a stroke color either (e.g., the pattern graphic is a bitmap image), the foreground color is set to black. The foreground paint well makes it easy to set the fill or stroke color of all the graphics in a pattern. When you change this color, your change is automatically applied to the entire pattern.

Choose the *Properties* button in the Pattern inspector to edit the pattern properties. Pattern properties include the size of the pattern and the distance to step after drawing each pattern tile. You can also select tiling options, opacity, and whether or not to transform the pattern when the graphic it is attached to is transformed (i.e., moved, scaled, etc.)

When you've finished creating the pattern you can drag it from the paint well in the Pattern inspector to other paint wells in Intaglio, or to the Library or Finder (see page 10). The *Samples* folder included with Intaglio (when downloaded from our website rather than the Mac App Store) includes a collection of sample patterns saved as clipping files. These patterns contain small bitmap images similar to patterns used by older drawing applications. To use these patterns drag a clipping file directly from the Finder into Intaglio.

Textures

Textures are images imported from disk or created within Intaglio. These images can be used to fill graphics or as sources for effects. When saving a graphic or effect which uses a texture to the library, the texture is preserved with the saved object. This allows the complete object to be reused without creating a dependence on another graphic in the original drawing.

There are three kinds of textures:

Image Textures

Image textures contain a bitmap or PDF image imported from disk. This image is drawn whenever the texture is painted. An image texture can be useful for filling a shape with an imported image or for use as an effects source.

Light Textures

Light textures contain a computer generated 3D sphere which is lit by any number of colored light sources. A light texture is mainly useful as a source for effects. For example, it can create an embossed effect when used as the shading image of a CoreImage *Shaded Material* filter.

Paint Textures

Paint textures contain another (non-texture) paint object. For example, a paint texture may contain a gradient or a pattern. A paint texture provides an alternate way to present a gradient or pattern within a graphic or to define a color, gradient or pattern for use as an effects source.

Styles

Intaglio maintains a set of default properties for each drawing document (e.g., line thickness, color, etc.). When you draw something new it is initially given these default attributes. The default attributes are set when you change an attribute value without first selecting any graphics. For example, if you start with a new blank document, set the line thickness to five points, and draw a couple lines they will both be five points thick because you have set the document's default thickness to that value. If you deselect the lines, set the line thickness to ten points and draw a rectangle, it will be ten points thick but the lines will stay at five.

Intaglio allows you to create multiple named sets of document defaults called *styles*. If a named style is activated it will be assigned to any new graphics created and any later changes to that style will passed on to those graphics. If a named style is activated when existing graphics are selected, it will be assigned to the selected graphics which will be given the style's attributes. You change the attributes of the active style by choosing new values with no graphics selected, just as in the behavior above, but when you change the attributes of a style those changes are passed on to all graphics that use that style.

In the example above, if you created a named style before initially setting the line thickness to five, that style's thickness would be set to five and the lines would use that style. Then when you deselected the lines and changed the thickness to ten the style thickness would be changed so the lines would change too (unless you switched styles first).

To create a new style choose **Edit > Styles > New Style** and specify the style's name. To set the style of one or more graphics, select those graphics and choose the style you wish to set from the **Edit > Styles** menu.

Using Effects

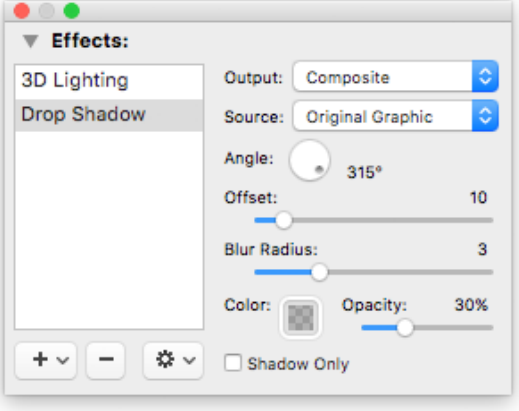
As discussed earlier, Intaglio is vector drawing software. This means the shapes you draw remain shapes internally and are only converted to bitmaps when they need to be drawn to the screen or printed page. This has many advantages, but some images are best represented by bitmaps earlier in the process. Intaglio bridges these two worlds by allowing you to specify special bitmap effects to be performed on standard vector graphic objects. For example, a *soft* drop shadow such as the ones you see under all the windows in Mac OS X is generally a transparent bitmap that becomes lighter as it get further from the edges of the graphic. In comparison, a *hard* drop shadow for the image below would just be a gray circle behind the graphic. A hard shadow can be created by simply drawing a gray circle, but a soft shadow requires a bitmap image to be created from the circle with a special blur function (specifically a gaussian blur) applied to the bitmap.

Intaglio allows a list of *Effects* to be applied to any graphic object. Each effect converts the original graphic into a bitmap image while performing special processing on the image. However the original vector graphic isn't changed and can be edited later causing a new series of special effect image operations to be performed. The type of special processing performed in each case will vary with the effect selected. For example, a *drop shadow* effect gives the appearance of an object standing above the page, but an *interior shadow* effect gives the appearance of an object recessed into the page. Effects can also be chained together to allow one effect to provide further processing on the results of the previous effect.

Since effects require the original vector graphics to be converted to bitmaps, Intaglio uses the drawing's resolution (see page 17) to determine the size of the bitmaps to create. It's important to note that the vector graphics remain editable when effects

are used, but the effect bitmaps must be recreated whenever a graphic is edited. Since this can be time consuming on slower machines or at high resolutions, you may want to temporarily reduce the quality of the effects you see on the screen while you're editing the graphics. There are two ways to reduce this computation time while editing. The first is to hide all effects by choosing **Layout > Hide Effects**, and the second is to ask Intaglio to display effects at low resolution on the screen. To do this choose **Layout > Resolution** and select *Preview Effects At Low Resolution*. This will cause effects to be rendered at 72 dots per inch on the screen, but at full resolution when printing or exporting the drawing as an image.

To add effects to a graphic, select the graphic, choose **Window > Inspectors > Effects** to open the Effects inspector, and select an effect from the *Add* (+) popup menu in the inspector.



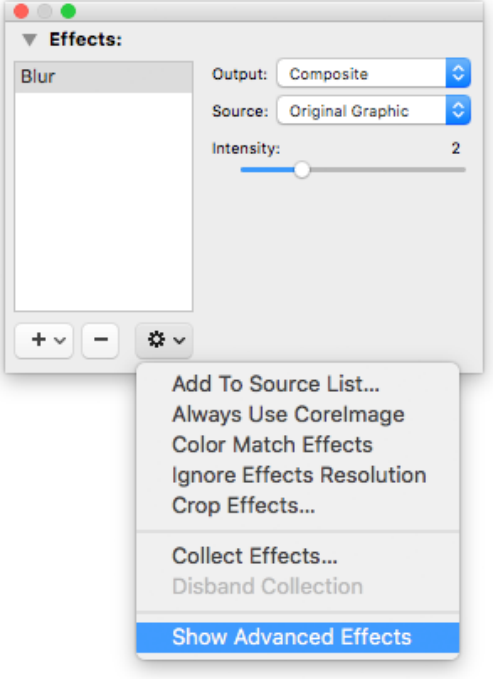
The Effects inspector lists all the effects in the currently selected graphic and allows you to edit those effects. The effects are listed from top to bottom, so the image above shows a *3D Lighting* effect to be drawn over a *Drop Shadow* effect. The items in the list can be dragged to rearrange the effects.

To edit an individual effect, select it in the list on the left side of the inspector panel and adjust the controls on the right. To remove an effect from a graphic, select the effect in the list and choose the *Delete* (–) button under the list.

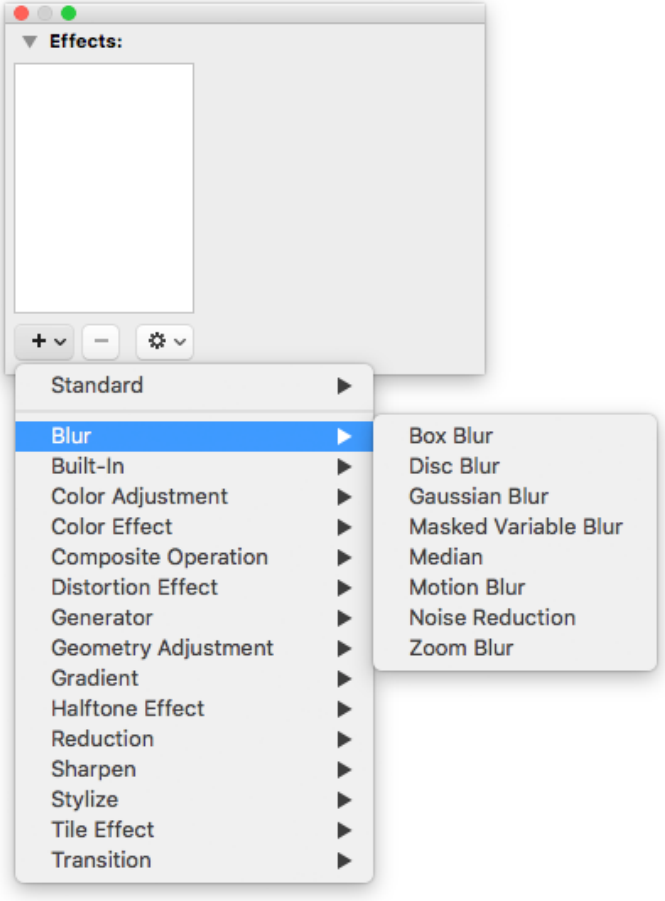
CoreImage effects

CoreImage is an innovative graphics technology in Mac OS X to use the power of the computer's graphics hardware for image processing. Intaglio allows you to use CoreImage to create effects limited only by your graphics processing power and your imagination.

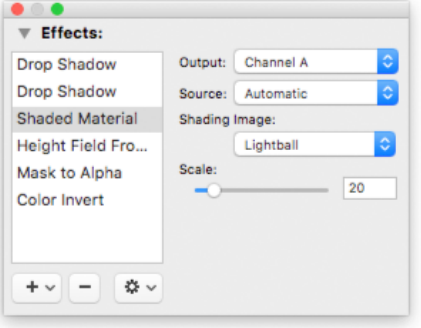
CoreImage includes many different image processing filters called *image units*. To use these filters you must first enable them in the *Add* (+) menu by choosing **Effects Action > Show Advanced Effects** (where *Effects Action* is the popup menu attached to the button in the Effects inspector with a gear icon.)



The *Add* (+) menu now lists all of the available CoreImage filters by category.



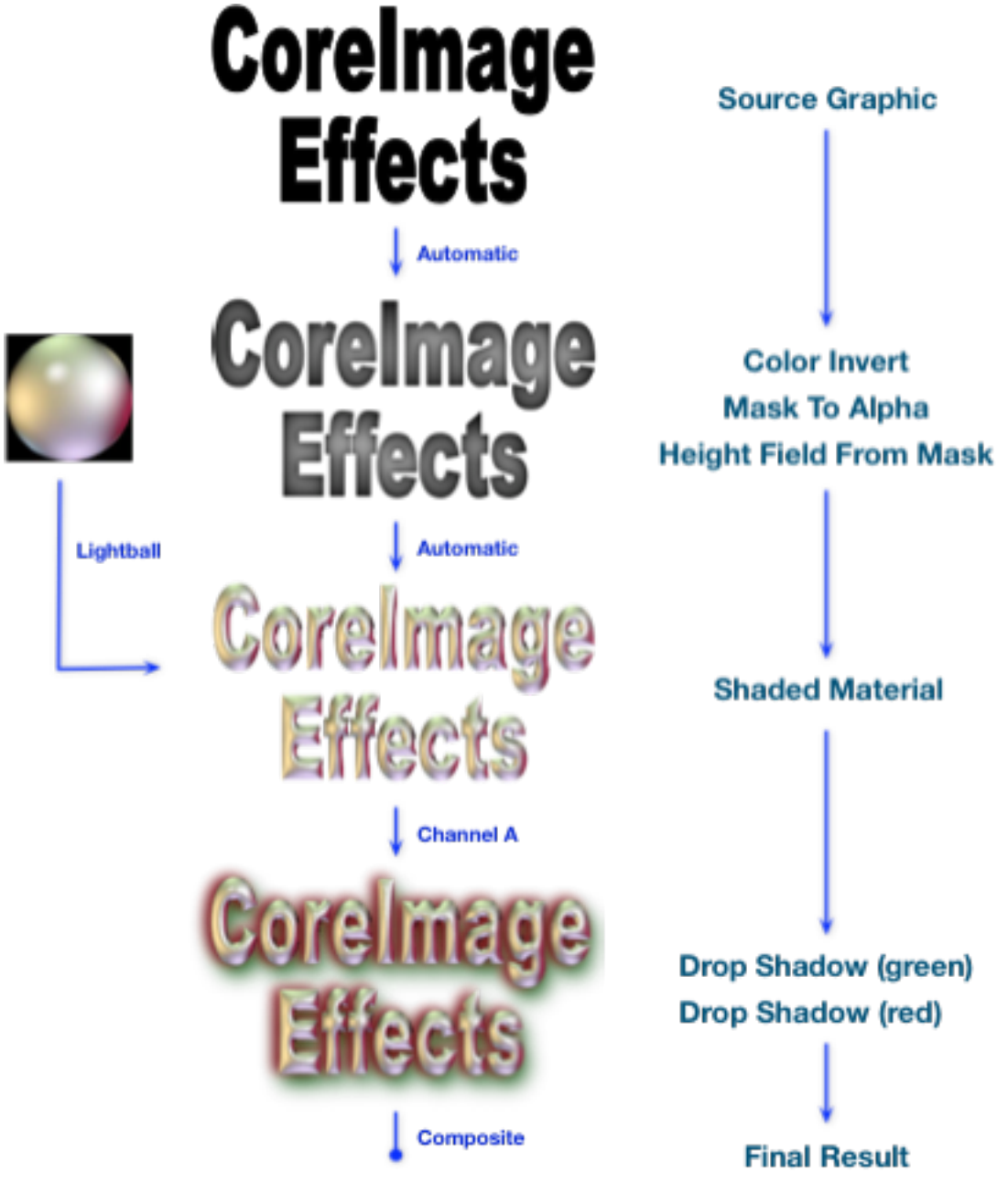
The CoreImage sample below shows one graphic used as a source for another. A “light ball” image is mapped onto a 3D surface generated from a text block. The light ball is a plain bitmap image in the drawing and presents several light sources. This effect also includes two drop shadows (at the top of the list) to emphasize the green and red lights on the ball. The list in the Effects inspector window shows the filters used to create this effect. As described above, the filters at the bottom of the list are performed before those above them in the list. This means the filters at the top of the list are drawn on top of the filters below them in the list. Filters can be dragged in the list to reorder them.



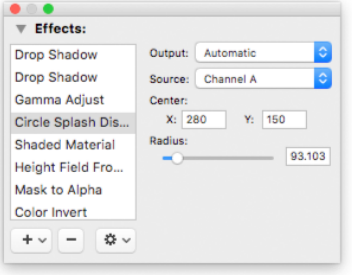
Each filter has an output and zero or more inputs (i.e., sources). Frequently as in this example, multiple filters are chained together by connecting the output of the first to the input of the second, and so on. A filter source can be the output of a previous filter (including “generator” filters) or a graphic in the drawing previously added to the source list by choosing **Effects Action > Add To Source List** (in the “gear” menu). In this example the *Shaded Material* filter uses the light ball graphic as its *Shading Image* input.

Intaglio provides several output channels to contain the intermediate results of a filter chain. These results are saved temporarily to be used as the inputs of filters later in the chain. Here the output of the *Shaded Material* filter is stored in channel A, then used as the input of both *Drop Shadow* filters. The outputs of the two *Drop Shadow* filters are composited together to form the final image.

The diagram below shows the chain of filters used in the image above and the intermediate results throughout the process. The filters in the effects list above are shown in the right column of the diagram.


CorelImage Effects
Automatic
CorelImage Effects
Lightball
Automatic
CorelImage Effects
Channel A
CorelImage Effects
Composite
Source Graphic
Color Invert
Mask To Alpha
Height Field From Mask
Shaded Material
Drop Shadow (green)
Drop Shadow (red)
Final Result

Below a *Circle Splash Distortion* filter has been composited prior to the drop shadows and darkened with a *Gamma Adjust* filter. Note the drop shadows don't change because they're also using the intermediate result of the *Shaded Material* filter as their inputs. The results of all the filters above *Shaded Material* are composited together to form the final image.



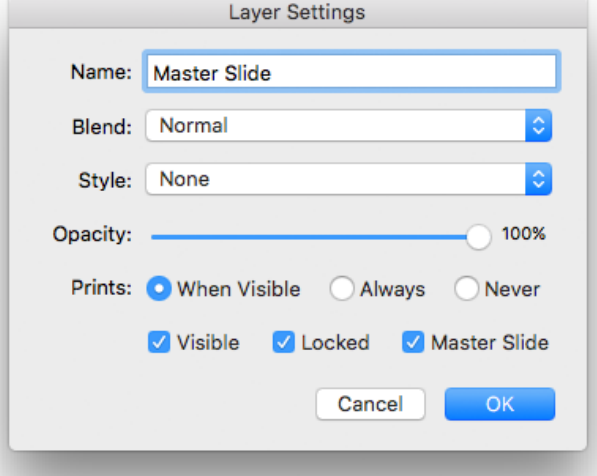
To experiment with images similar to those above open the sample drawing *CoreImage Effects* included with Intaglio (when downloaded from our website rather than the Mac App Store).

Creating Slideshows

Intaglio includes basic slideshow presentation capabilities. Although it's not intended to replace full featured presentation software, such as Apple Keynote™ or Microsoft PowerPoint®, Intaglio can be used for basic presentations.

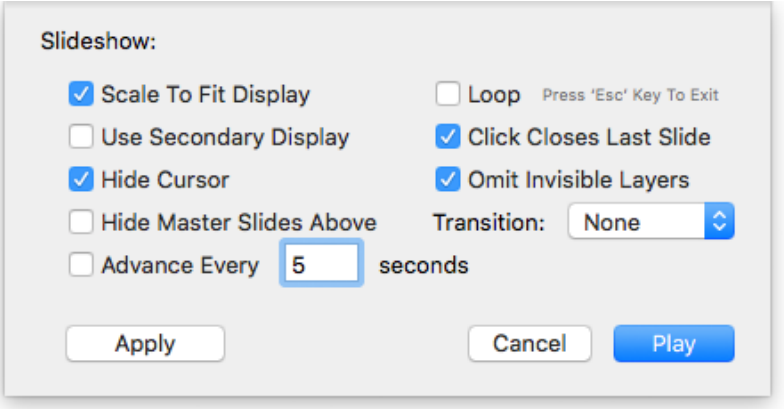
During a slideshow the layers (see page 21) in a drawing are used as individual slides. A slideshow starts using the bottom layer of a drawing as the first slide and advances upward through the layers until it reaches the top layer (i.e., the last slide). After reaching the last slide the slideshow either stops and waits for the mouse to be clicked, ends, or loops back to the first slide and begins again. You can press the *escape* (i.e., esc) key on the keyboard any time during a slideshow to end it immediately.

Normally each layer is a separate slide, but layers can also be set to act as *master* slides. A master slide isn't shown as an individual slide on its own, instead it appears with every slide in the presentation. Typically the bottom layer is used as a master slide to provide the background for all the other slides in the presentation. In the *Layer Settings* window below a layer has been configured as a master slide (note the checkbox above the *OK* button).



Once you've created a multi-layer drawing choose **File > Play Slideshow** to start a full-screen presentation. This opens the *Slideshow* window to allow you to set the slideshow options (you can hold down the *option* key on the keyboard to skip this step).

The following options are available for slideshows:



Scale To Fit Display

Scales slides to fill as much of the presentation display as possible.

Use Secondary Display

Uses the largest display connected to the computer, other than the main display, for the presentation.

Hide Master Slides Above

Hides any master slides in layers above the current slide.

Advance...

Automatically advance to the next slide after the specified number of seconds have passed.

Loop

After the last slide loop back to the first slide and begin again.

Click Closes Last Slide

End the slideshow when the mouse is clicked in the last slide.

Omit Invisible Layers

Skip any slides made from layers whose *visible* attribute is turned off.

Transition

Selects an optional transition between slides such as Fade or Dissolve.

Exchanging Graphics With Other Applications

Occasionally you may create graphics from scratch in Intaglio and view or print them directly. More often you're likely to build upon graphic elements imported from another source and deliver your creation to yet another application to be included in a larger document or web site. Therefore it's important to be able to import and export graphics to and from other applications while retaining as much of the original as possible.

Intaglio can both import and export graphics in PDF and SVG formats and export a wide variety of bitmap formats. To exchange graphics via disk files choose **File > Import** and **File > Export** (or **File > Save As** if auto-save is turned off). To transfer graphics directly between applications you can use either copy and paste or drag and drop. To use drag and drop to import graphics into Intaglio, simply drag the graphic object or file into a drawing window. To export graphics via drag and drop, click on the graphic and hold the mouse button down for 3/4 of a second before dragging, or hold down both the *option* and *command* keys on the keyboard as you click on the graphic. If you wish, this delay before drag can be adjusted (or eliminated completely) in the Tools panel of the Preferences window.

When exporting bitmap graphics Intaglio will always use the document's export resolution (see page 17). For larger, higher quality images choose higher resolutions. It's worth noting that effects and some gradient fills are also exported as bitmaps and also use the document's export resolution.

The Clipboard panel in the Preferences window (choose the menu **Intaglio > Preferences**) contains a variety of options to control how graphics are imported and exported (via both copy and paste and drag and drop). The Conversions preference panel contains options to control graphic conversions from other formats to Intaglio graphics.

PDF (Portable Document Format)

The preferred graphics exchange format for Mac OS X is PDF. Quartz was designed specifically to work hand in hand with PDF graphics so this will generally give you the best fidelity between applications. For this reason it's best to use PDF whenever possible to exchange graphics. Most applications written for Mac OS X include good support for PDF but there are some exceptions where bitmap graphics are generally your best choice.

A very powerful feature of Intaglio is the ability to convert PDF to editable graphics. This means with Intaglio you can edit graphics created in virtually any Mac OS X native application. In most cases the properties of elements such as text and graphic paths remain available for change. By default Intaglio retains PDF graphics intact when importing and you can convert them for editing at any time. This conversion can be set to happen automatically when a PDF is imported in the Conversions panel of the Preferences window.

SVG (Scalable Vector Graphics)

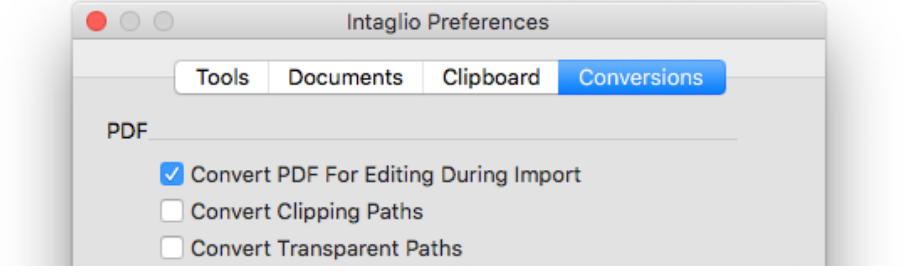
SVG is a standard graphics format created by W3C, the organization that sets standards for the World Wide Web. For this reason SVG is being adopted by several web browsers as a way to embed scalable graphics in web sites. Because SVG is a vector graphics format it is capable of providing graphics at whatever resolution the user needs.

Intaglio is able to export drawings as SVG files and open basic SVG files as new drawings. This allows Intaglio to exchange graphics with other SVG enabled graphics applications such as open source projects.

iWork

Apple's *Pages* and *Keynote* applications are excellent examples of the power of Quartz and PDF. For that reason they're also great to use with Intaglio. Intaglio graphics can be dragged directly into an iWork document without any loss of quality (remember to hold down the mouse button for 3/4 of a second before dragging). Furthermore because Intaglio can edit graphics in PDF, you can copy an iWork graphic into Intaglio, edit it and return the updated graphic to iWork quickly and easily.

To most easily work with graphics from iWork set the following preferences in the Conversions panel of the Preferences window (choose the menu **Intaglio > Preferences**):



- Turn **on** Convert PDF For Editing During Import.
  This will automatically convert the iWork PDF into editable graphics when you drag or paste it into Intaglio.

- Turn **off** Convert Clipping Paths.
  This will eliminate extra masking groups iWork inserts into the PDF as clipping paths. If your iWork graphic contains gradient or image fills you may want to leave this option on. This will preserve the correct masking behavior but will also result in some extra groups in the conversion. Some Keynote themes use image fills to produce a textured appearance that also rely on clipping paths.

- Turn **off** Convert Transparent Paths.
  This will eliminate extra paths iWork inserts into the PDF.

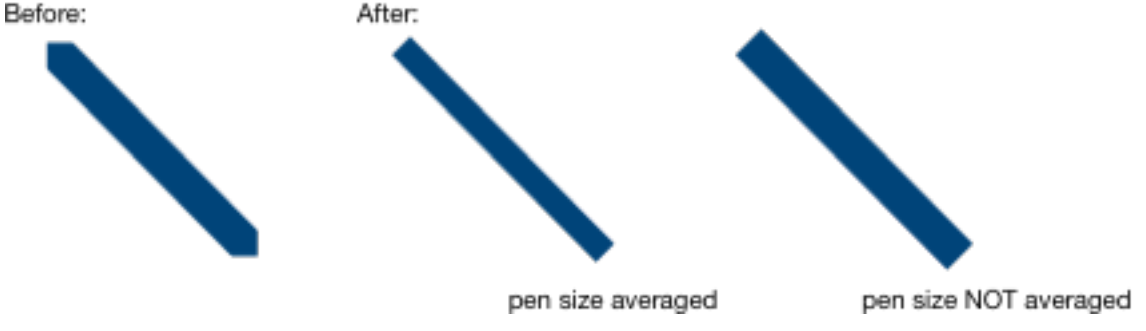
Converting QuickDraw Graphics to Quartz

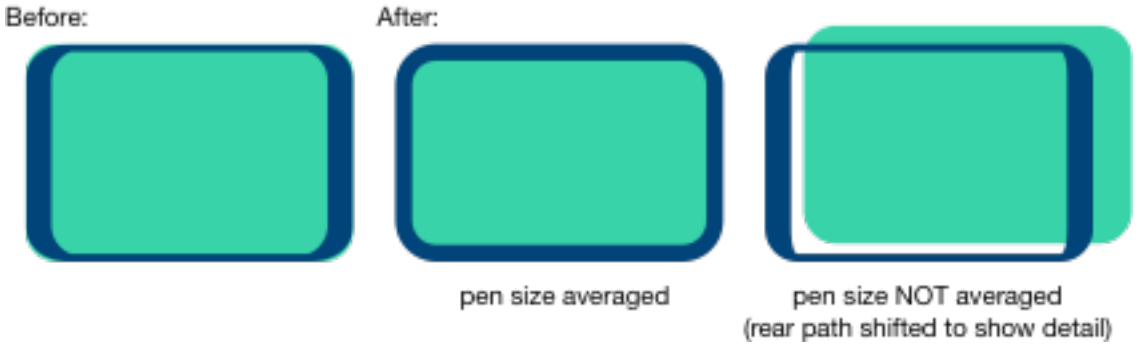
The original Macintosh provided a graphics system called QuickDraw. This was used by classic Mac applications such as MacDraw and ClarisDraw to build their graphics. Mac OS X introduced a more capable graphics system called Quartz. Intaglio achieves much of its power by using the Quartz graphics in Mac OS X, but this makes it more difficult to use older images created with QuickDraw based applications. To make use of legacy graphics files from QuickDraw based applications Intaglio is capable of converting vector Picture (i.e., PICT) files to Quartz graphics for editing in Intaglio. Intaglio can also open native MacDraw II, MacDraw Pro, ClarisDraw and AppleWorks 6 drawing files directly and convert their contents to Quartz.

Intaglio can treat vector QuickDraw pictures (i.e., PICT) created in classic Macintosh applications in three different ways. First they can be converted to bitmap images with QuickDraw, this will render them exactly as they originally appeared, but the resolution will be fixed and the graphics can't be edited. Second they can rendered with Quartz, this will maintain most of the original appearance and add some Quartz features such as anti-aliasing (i.e., it will remove the "jaggies"), but the pictures still can't be edited. Finally, QuickDraw pictures can be converted to Quartz graphics allowing them to be edited, but this may introduce various artifacts due to the differences between QuickDraw and Quartz.

The following issues arise when converting QuickDraw pictures for editing, due to various ways in which Quartz differs from QuickDraw. Options in the Conversions pane of the Preferences window allow some choice in how these issues are handled.

- QuickDraw strokes (i.e., outlines) graphics with a square pen that can differ in width and height. Therefore the thickness of a QuickDraw line varies with its angle. Converted lines can use the average pen size or attempt to compensate for this difference by either setting the stroke width based on the line's angle or by creating two graphics to represent the original fill and outline respectively. The line caps (i.e., the style of the end of a line) will also vary due to the ways QuickDraw and Quartz each draw lines.



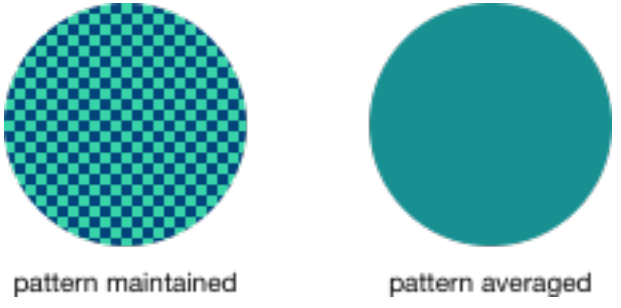


- QuickDraw's transfer modes don't have an analog in Quartz and are ignored. Some of the transfer modes are copy, or, and (sometimes called bic), and xor (i.e., exclusive or). These modes change the appearance of a graphic based on what is behind it. In some cases, ignoring the transfer mode causes a graphic to change its appearance or even become visible where it was originally invisible.

- The QuickDraw text style outline and shadow also have no analog in Quartz and are ignored. In Intaglio, outline text can be created by setting the appropriate stroke options for the text block. Text can be given a shadow using Intaglio's effects capabilities (see page 49).

- QuickDraw and Quartz fill arcs differently. If an arc is both filled and stroked the visual appearance can be maintained by converting it to two separate paths for the fill and stroke respectively, or it can be combined as a single path that fills differently than the original.

- QuickDraw patterns were sometimes used to simulate a solid color an older computer wasn't capable of displaying by combining colors the computer could display. Modern computers generally don’t have these limitations so Intaglio can either maintain patterns as they are presented or convert them to solid colors.



- When text is saved in a QuickDraw picture each separate line and style run within a line is saved as a separate text element. Intaglio attempts to reconstruct the original text block from these pieces but this process isn't perfect. Sometimes a single text element may be spread across multiple Intaglio text blocks or multiple text elements may be combined incorrectly. The *Text Element Combination* slider the Conversions panel of the Preferences window allows some control over this process.

- Most ClarisDraw and AppleWorks 6 drawing files can be converted to Intaglio drawings by simply choosing **File > Open** or dropping the file on the Intaglio icon in the dock. A few files contain elements not supported by Intaglio, and therefore can't be converted. In this case you can save the file in PICT format within ClarisDraw or AppleWorks, import that file into Intaglio and convert it for editing.

Scripting Intaglio

All graphic operations in Intaglio can be performed via AppleScript. In addition, any graphic operation performed within Intaglio is recorded as a script. This means you don't have to remember the exact syntax for any particular operation, you can just turn on recording in AppleScript and perform the operation in Intaglio to get a script that will perform that operation again. If you wish you can modify your new script to perform a slightly different operation or repeat it several times. Please note that as of the time of writing, when Intaglio is purchased from Apple's Mac App Store, Mac OS X restricts AppleScript recording for security reasons. Scripts can still be written and played, but recording is blocked.

Scripts can be executed directly from within Intaglio and can be added to the script menu (**Intaglio > Scripts**) for easy access. The script menu can also be added to the toolbar. To manage scripts in the script menu, choose the **Intaglio > Scripts > Show Scripts Folder** menu to open the scripts folder in the Finder and add or remove script files from that folder with the Finder. The script files in the folder will be displayed in Intaglio's script menu.

Tips and tricks

- If you don't know how to express something you want to do in AppleScript turn on recording in the Script Editor and perform a similar operation in Intaglio. Your actions will be translated into a new script in the Script Editor that you can adjust to perform exactly what you want it to do. As noted above, this is blocked by Mac OS X if Intaglio was purchased from the Mac App Store.

- AppleScript defines the term "move" to mean "change the order" of an object. For example, *"move the last graphic to the beginning"* will bring the rearmost graphic of the current document to the front of all graphics in that document. Intaglio uses the term "translate" to mean "change the location" of an object. For example, *"translate the first path by {20.0, 0.0}"* will shift the location of the front-most path 20 points to the right.

- When recording a script, Intaglio refers to objects by a unique ID rather than by other means such as the object's order. This allows Intaglio to always keep track of a specific object even if that object moves, but it also means the script created will

only run if that object continues to exist. For example when recording, you might get the script *"set stroke width of graphic id 1 of document id 1 to 10.0"*. Note this refers to a graphic and a document both having an ID of one. This script will only set the stroke width of the first graphic created in the first document opened when running Intaglio. If that document is closed or the first graphic in it is deleted the script will fail. For more flexibility you could modify this script to read *"set the stroke width of path 1 to 10"* which would set the stroke width of the front-most path of the current document.

- There are several infrequently used settings in Intaglio that can only be accessed by running a script. Example scripts for many of these settings are provided in the *Samples* folder included with Intaglio (when downloaded from our website rather than the Mac App Store). If you require regular access to some of these settings, consider adding the script to the script menu for easy access.